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ANNUAL REPORT

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OF THE

FISHERY BOARD FOR SCOTLAND

Being for the Year 1920.

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# THIRTY-NINTH ANNUAL REPORT

OF THE

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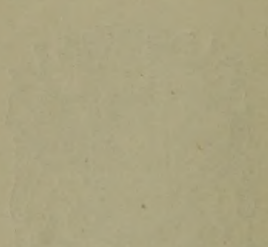
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# THIRTY-NINTH ANNUAL REPORT.

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TO THE RIGHT HONOURABLE  
ROBERT MUNRO, K.C., M.P.,  
*His Majesty's Secretary for Scotland.*

FISHERY BOARD FOR SCOTLAND,  
EDINBURGH, *April 1921.*

Sir,—

In terms of the Act 45 and 46 Vict., c. 78, we, the Fishery Board for Scotland, have the honour to present our Thirty-ninth Annual Report, being for the year 1920 :—

## CHAPTER I.

### INTRODUCTION.

The account which we have to submit in this and the succeeding chapters of the progress of the Scottish fisheries during 1920 is not so satisfactory as we could have wished. The industry is at present passing through a period of great depression, and the conditions prevailing after two years of peace form a somewhat melancholy contrast to the rosy prospects which were confidently predicted for it at the conclusion of hostilities in November 1918. Hopes then ran high that the armistice would be the precursor of an era of unprecedented prosperity, and while they were doubtless to some extent inspired by the reaction from the anxiety which had hung over the industry for so long, they were nevertheless not without a reasonable foundation. During the long drawn-out struggle the value of our fisheries, alike as a nursery for seamen and as a source of food supply, had been brought home to the nation as never before, while there was every reason to believe that the virtual close time brought about by the war would have resulted in the replenishment of the fishing grounds, and it was but natural that those connected with the industry should see in this a good augury for the future. Circumstances have, however, conspired to frustrate the realisation of these hopes.

The causes underlying the present depression are well defined. In the case of the herring fishing industry, they are to be found in

the chaotic political and economic conditions which have prevailed in the countries of central and eastern Europe, which normally constitute the chief markets for cured herrings, and on which the herring fishing industry is dependent for its existence. This industry is peculiar in that it is a seasonal one, and that during its progress herrings are landed in quantities beyond any possibility of immediate consumption. It is therefore necessary to preserve the catch, and it is this which has led to the development of the vast trade in pickled herrings with Europe. The conditions referred to above have, however, greatly restricted private trading, and the industry has so far been saved from disaster only by the financial assistance afforded to it by the Government.

The difficulties in the white-fish fishing branch of the industry are attributable to different, but equally potent causes. The productive power of the fishing fleet is greater than ever before, the means of transport and distribution which were dislocated by the war have not yet been fully restored, while the markets for dried cod and other white fish have been flooded with Norwegian and Newfoundland fish cured during and since the war. Difficulty is consequently found in disposing of the increased catches which the growth of the fleet and the replenishment of the grounds has brought about, the supply is often in excess of the demand, and prices are at times very little above their pre-war level. Working expenses, on the other hand, have been abnormally high, and the inevitable result is seen in adverse balance-sheets, the laying-up of fishing vessels, and the depreciation in the value of fishing craft of all kinds.

To other disturbing factors has to be added the labour unrest, which in the fishing, as in other industries, has followed upon endeavours to adjust wages to changing conditions, and which has led to recurring strikes and disputes.

The unremunerative results from white-fish fishing must also in a large measure be attributed to the fact that the industry is temporarily over-capitalised. A great number of vessels were purchased at the inflated prices which ruled during and for a considerable time after the war, and it is certain that sooner or later these values will require to be substantially written down.

The Board are, of course, powerless to influence the economic factors which have combined to bring about the situation described, but every assistance which it lies within their power to give has been afforded. Both in 1919 and 1920 they took an active and intimate part in the negotiations which led up to the granting of the herring fishing guarantees, and the claims of the industry to sympathetic consideration have had their warm support. Steps were also taken to ascertain the possibilities of developing new markets for cured herrings and white fish, while in other matters, such as the removal of restrictions on the import of salt and the provision of



shipping for the importation of salt and stave wood for barrels, when the shortage of these essentials threatened to bring herring curing operations to a stop, they have been instrumental in relieving the situation. In the case of the home markets they have also taken an important part, as a perusal of Chapter V. will show, in matters of transport and distribution.

At the close of the year the outlook, although still dark, was not one of unrelieved gloom. The monopoly which had been created by the German Government over the importation of cured herrings had been removed, which promised to give a decided impetus to trade with that country, and signs were not wanting that the resumption of trade with Russia, the other great herring consuming country, might soon be possible. This was the more welcome in that the Government had definitely made it known that no further financial assistance would be forthcoming. The first signs of a downward trend in the prices of material had also become manifest, and there was reason to anticipate some reduction in the heavy burden of the cost of production.

What the future may hold in store for the industry none can say with certainty, but while it may be unwise to indulge in undue optimism, the Board do not doubt that the energy and enterprise which founded and developed the British fisheries will again triumph over difficulties, and that the industry will eventually emerge from its travail with renewed stability and strength.

The survey given in the succeeding chapters of this report of the Board's administrative activities is by no means exhaustive, and to those who are unfamiliar with the inner workings of the industry the wide ramifications of these activities may be interesting. In many instances social legislation directly affects those engaged in the industry, and in the course of the year the Board were called upon to advise on the provisions of the Unemployment Insurance Bill, the Hours of Employment Bill, and the Workmen's Compensation Bill. They were also consulted with regard to the extension to Scotland of certain of the provisions of Part IV. of the Merchant Shipping Act, 1894, while their Chairman also attended, in an advisory capacity, the International Labour Conference held at Genoa to discuss conditions of labour, including those prevailing in the fishing industry. Other questions dealt with, to name only a few, embraced such diverse matters as the claims to be made against Germany in respect of the loss of fishing vessels, the proposed improvement of the Crinan Canal, the training of British seamen as whalers, the housing and welfare of fishworkers, the deposit at sea of explosives and of waste material from industrial processes, and the classification of occupations for the purposes of the census.

The Board desire to draw special attention to one question which has come up again in an acute form since the termination of the

war, viz., the practice of foreign fishing vessels of trawling in the Moray Firth, from which British trawlers are excluded. During 1920 foreign vessels began to frequent the Firth in increasing numbers, as the result of which feeling among British fishermen on this matter has become very embittered, and the Board feel that the present position, which in effect confers preferential treatment on foreign as compared with British vessels, is altogether anomalous.

We conclude this chapter by appending a table epitomising the results of the Scottish fisheries during the past decade:—

SUMMARY OF MEANS OF CAPTURE AND RESULTS.

Year.	Number of Vessels.	Value of Boats and Gear.	Total Catch.	
			Quantity (excluding shell fish).	Value (including shell fish).
		£	Cwts.	£
1911 - -	9,543	5,628,087	8,511,974	3,127,929
1912 - -	9,290	5,777,102	8,587,106	3,656,178
1913 - -	8,991	6,035,952	7,828,350	3,997,717
1914 - -	8,869	6,297,745	7,440,321	3,208,536
1915 - -	4,653	1,668,765	2,319,390	2,109,465
1916 - -	4,650	1,827,346	3,412,030	3,206,550
1917 - -	4,609	1,902,167	3,079,768	3,704,789
1918 - -	4,614	3,038,592	3,313,228	6,066,588
1919 - -	6,534	9,223,456	5,968,866	6,147,945
1920 - -	8,177	11,916,468	6,325,939	6,626,829

## CHAPTER II.

### MEANS OF CAPTURE AND PERSONS ENGAGED.

With the release of the last of the Scottish fishermen and of the larger vessels from Admiralty and other war service the personnel and material employed in the Scottish fishing industry were for the first time since the outbreak of war brought up to normal strength. The practice adopted during the war, when the great majority of the vessels were either on service or laid up, of showing only those vessels which were actually engaged in fishing has therefore been abandoned, and all fishing vessels, gear and men belonging to Scotland, together with vessels, etc. fishing from Scottish ports, although owned elsewhere, are again included in the relative Table A., No. 1 (p. 3), together with details of the quantities and values of the various kinds of fishing gear employed.

Table A., No. 2, the printing of which was suspended during the war, re-appears in the Tables to this Report (p. 16), and in this





**CHART SHOWING THE INCREASE OF STEAM DRIFTERS  
AND LINERS AND MOTOR BOATS  
BELONGING TO SCOTLAND.**

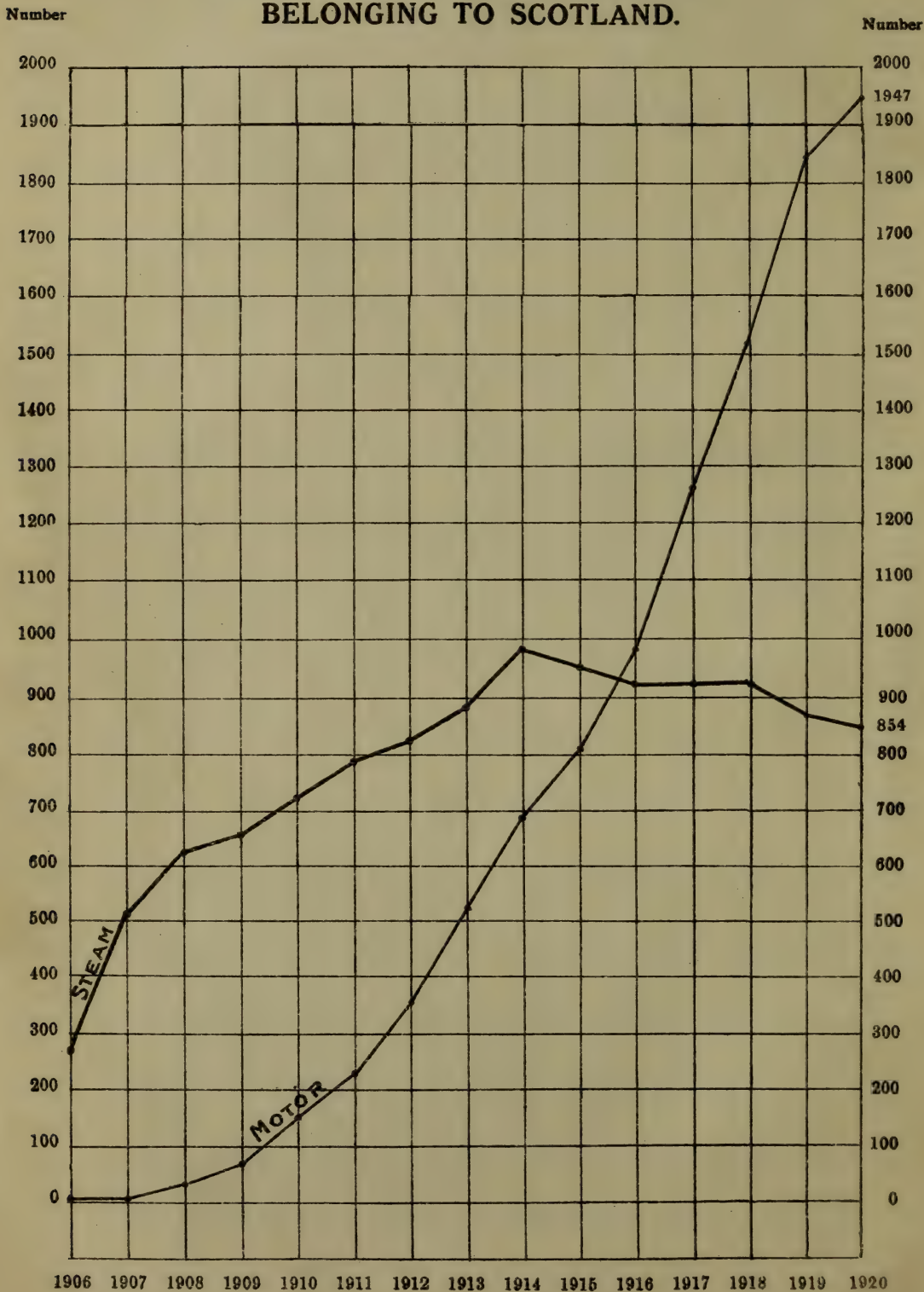




table will be found details for each port or creek round the Scottish coast—number of vessels or boats, classified by sizes, number of fishermen, and quantity and value of fish landed.

The following figures, showing the total number of fishing vessels actually belonging to Scotland in the various years, indicate the changes which have occurred in the composition of the fishing fleet, as does also the chart opposite showing the increase in the number of motor boats as compared with steam drifters and liners :—

Year.	Steam Trawlers.	Steam Drifters and Liners.	Motor Boats.	Sail Boats.	Total.
1920	354	854	1947	4658	7813
1919	324	872	1844	5084	8124
1913	298	884	523	6807	8512

The bulk of the fishing fleet was owned on the East Coast, including practically all the steam vessels, over a half by number but four-fifths by gross tonnage of the motor vessels, and more than a third both by number and gross tonnage of the sailing fleet.

The trawling fleet operating from Scottish ports, inclusive of English owned vessels, was greater in 1920 than ever before, numbering 385 as against a previous maximum of 332 attained in the first half of 1914. The additions to the fleet consisted mainly of trawlers built by the Admiralty, primarily for war purposes, and of small-sized trawlers sold to England during the war, and repurchased at greatly reduced prices. Of 10 steam trawlers built during the year the majority went to English owners and only one was retained in Scotland.

An interesting feature of the year was the conversion of a number of drifters into trawlers. Although Scottish steam drifters have all along been owned for the most part by the fishermen themselves, nearly all the Scottish trawlers have been held by shore owners, chiefly limited liability companies, and trawling has been regarded with little favour by drift-net and line fishermen. Many of these fishermen, however, while on Admiralty service became more closely acquainted with trawl fishing, and doubtless lost some of their prejudice against it; and in view of the gloomy prospects of the herring fishing a number were prepared to give trawling for white fish a serious trial. The disposal of Admiralty steam drifters through the Board to ex-service fishermen afforded the necessary opportunity, and a number of those sold during the year were by the fishermen's own choice equipped for trawling.

The number of steam drifters and liners belonging to Scotland shows a decrease of 30 as compared with 1913, and until trading conditions with the Continent show an improvement, it is improbable that the upward trend of the figures which was so noticeable prior to the war will be resumed.

While the number of boats fitted with motor engines shows an increase over the total for 1919, and the motor fleet is now almost four times its pre-war strength, the activity which prevailed during the war in installing motor engines into sailing boats was not manifest during 1920. No additional large sailing boats were equipped with motor power, and the return of the steam drifter fleet from Naval service resulted in the laying up of a number of motor

drifters. As in the case of the latter, the operations of the medium sized motor boats were less remunerative, and in this class also the demand for motors greatly slackened.

Of the 83 sail boats constructed 78 were under 18 feet keel for use in handlining in Fraserburgh, Orkney, Shetland and Stornoway districts. No large sailing boats have been built for many years, and the decrease in the sailing fleet was due principally to the breaking-up of obsolete craft.

The total value of fishing vessels amounted to £9,381,239, making with gear valued at £2,535,229 a total of £11,916,468, which figures show a substantial increase on those of the previous year. The high-water mark in the price of vessels, however, was passed, and towards the end of the year the prices of trawlers fell about 25 per cent. as compared with those of 1918 and 1919. The suitability of drifters for great lining, the success attendant on that branch of the industry, and the operation of the Government herring guarantee tended to maintain the value of these craft, in spite of the precarious outlook in the herring industry, but the value of motor boats and of sail boats of all classes fell considerably. The value of the gear of motor boats, a considerable number of which were laid up, was slightly less.

During the year 80 boats valued at £92,245 were totally wrecked or otherwise lost, and in addition 740 vessels sustained damages estimated at £54,975, making the total loss on boats £147,220 as compared with £39,789 for the previous year. An outstanding feature was the large number of motor boats lost by fire, and the Board drew the attention of owners and skippers to a notice issued by the Board of Trade as to the precautions to be taken against fire on these vessels. The loss on nets and other fishing material lost or damaged was £281,803, an increase of £165,161 over the previous year, most of which was sustained during the winter herring fishing. The foregoing figures do not include losses sustained by Scottish vessels at the English and Irish fishings. At the East Anglian fishing these were very considerable in individual cases, although in the aggregate lighter than usual.

Particulars of the number of persons employed in fishing and in the various other branches of the Scottish fishing industry are given in the Table F., No. 1 (p. 140). The number of fishermen was 36,319, being a decrease of not quite 2000 as compared with the pre-war total, but this shortage is largely accounted for by the reduction in the number of English drifters visiting Shetland for the summer herring fishing, the number of Scottish fishermen being 32,993, as compared with 33,823 in 1913 (Tables A., No. 1 (p. 3), and A., No. 2 (p. 16)). Of the total number of fishermen 10,400 were engaged on steam drifters or liners, 8600 on motor boats, 3900 on steam trawlers, and the balance of 13,400, including most of the crofter and other part-time fishermen, on sailing boats.

It is regretted that the loss of life among fishermen during the year was much greater than in 1919, 40 as compared with 13. The casualties occurred chiefly in taking harbours or by falling overboard.

The total number of persons engaged in all branches of the industry, including fishing, shows a falling off of nearly 20,000, being 70,983 as against 90,710 in 1913. The decrease is largely confined



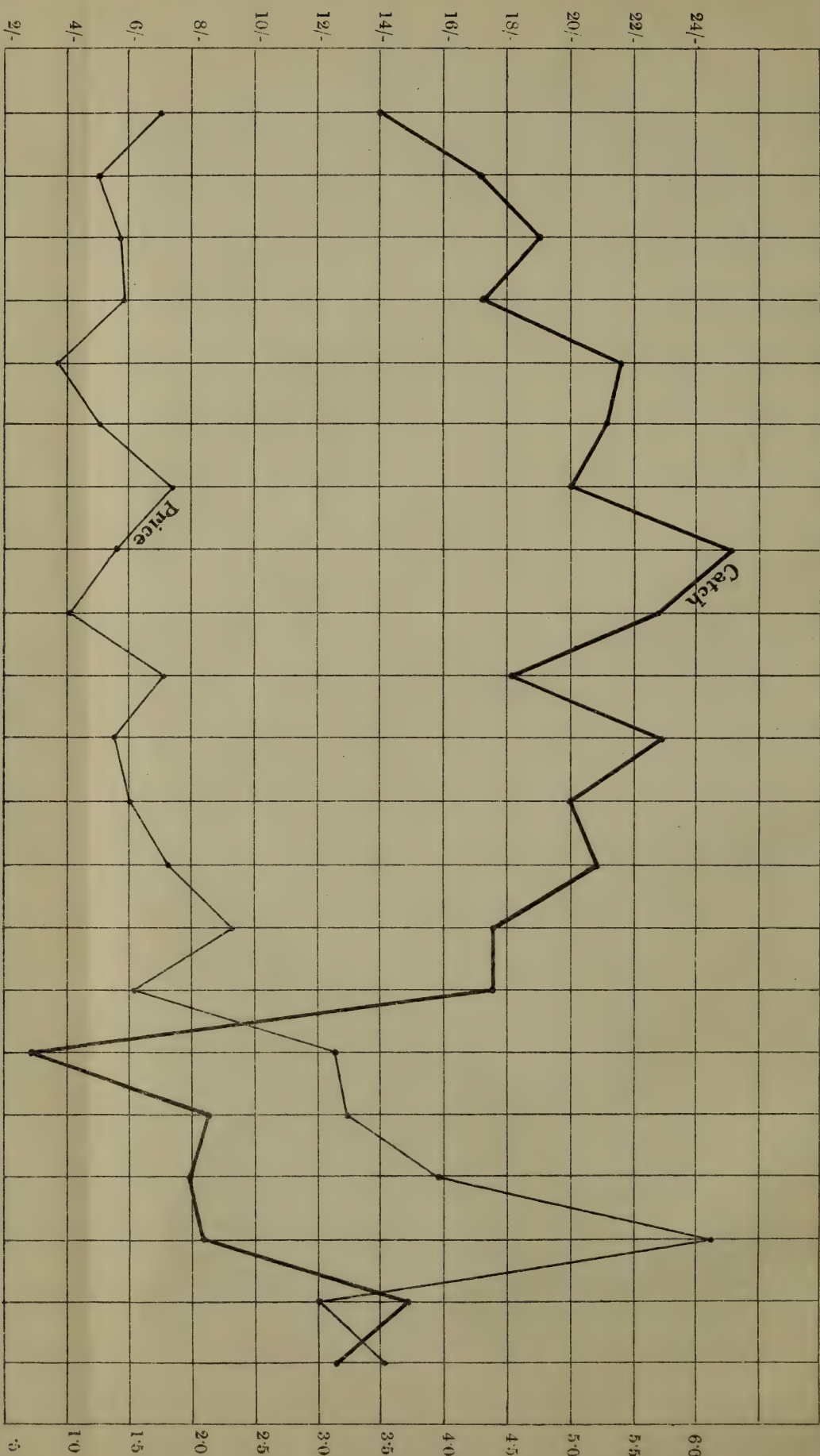


# DIAGRAM SHOWING THE RISE AND FALL IN THE CATCH AND PRICE OF HERRINGS

IN SCOTLAND FROM 1900 TO 1920 INCLUSIVE.

Price per Cwt.  
in Shillings.

Quantity in  
Million Cwt.





to persons who find only partial or temporary employment in the industry, such as women herring gutters and seamen engaged in transporting fish and fish curing material; and, as in the case of fishermen, is very largely attributable to the depressed state of the herring industry.

The majority of the persons engaged in curing operations are gutters and packers, and the number so employed during the year was 9403 as compared with 16,269 in 1913. The decline is particularly noticeable in the more outlying districts such as Orkney, Shetland, Stornoway, Barra and Loch Broom.

An increase in the numbers of persons gathering bait and baiting lines on the East Coast, especially in Anstruther and Montrose Districts, reflects both the revived interest in small-lining as compared with pre-war years, and the greater attention paid to the gathering of bait locally, due to high transport charges and delay in transit from the West Coast and elsewhere.

The building and repairing of fishing vessels gave employment to 3376 persons, as compared with 3684 in 1919 and 2403 in 1913, and of the total 75 per cent. were engaged at Aberdeen, the principal centre for the building of steam trawlers. Elsewhere boat building for the fishing industry affords only intermittent employment, and building operations were practically restricted to motor boats, although 1 steam trawler was completed at Leith, and Montrose and Buckie each contributed 2 steam drifters and liners. The majority of the men employed were engaged in reconditioning and repair work, and nearly all work of the former class was completed by the end of the year.

Net making afforded employment to 2260 persons, as compared with 1778 in 1919 and 2302 in 1913. The high cost of nets, together with unsuccessful fishings, deterred fishermen from replacing or acquiring gear so readily as in pre-war years, and a few boats were idle owing to the lack of share fishermen provided with suitable equipment. A fall in the price of gear and a more encouraging outlook for the herring fishing industry must eventuate before any material increase in the demand for nets can be looked for.

In consequence of the failure of the summer fishing, and the poor prospects of the industry generally, a number of coopers also were unemployed at the end of the year, and with large stocks of unused barrels on hand there was little prospect of any improvement in the situation for some time to come.

---

### CHAPTER III.

#### THE HERRING FISHERY.

The quantity of herrings landed in Scotland in 1920 was 3,155,165 cwts., valued at £2,244,680, as compared with 3,735,486 cwts., valued at £2,236,559, in 1919. The landings showed a decrease of 16 per cent. in quantity, but a slight increase of less than 1 per cent. in value.

For purposes of comparison, the accompanying diagram shows the

quantities of herrings landed in Scotland and the average price per cwt. for each of the years 1900 to 1920.

At the beginning of the year the outlook was far from bright. The political and economic conditions prevailing in the Continental countries, which normally constitute the chief markets for cured herrings, combined with the depreciated exchanges, were such as to render the possibility of private trading a difficult one, while high working costs and heavy transport charges, as in all other branches of fishing, militated greatly against the chances of satisfactory earnings being made by the fishermen, even if good catches were secured. Preparations were, however, made on a fairly extensive scale at all the herring ports, and the catching power of the industry was quite up to its pre-war level. Fishing operations during the early months of the year proved productive, and as it was possible to dispose of nearly all the catch on the home markets the financial results were fairly satisfactory. The summer and autumn fishings are, however, largely dependent on the export trade, and during the past year could not have been conducted apart from Government assistance. Although such assistance was given, the summer fishing yielded so poor a result as to be practically a failure, and but for the successful autumn fishing shared in by the Scottish fleet at East Anglia the financial position of many of the fishermen would have been precarious.

#### WINTER FISHING.

Although very stormy weather prevailed, the winter herring fishing was actively prosecuted, particularly off the north and north-west of Scotland. The results in the Minch and the adjacent lochs were not so satisfactory as in previous years, the landings at Stornoway especially being disappointing; but the grounds on the north coast proved exceptionally productive, individual catches ranging up to 227 crans,\* and so dense were the shoals that nets were frequently sunk owing to the weight of fish. The bulk of the catch from these grounds was landed at Wick and Scrabster, but owing to the frequent congestion at these ports as a result of the heavy fishing many of the larger drifters ran with their catches direct to various East Coast ports, proceeding as far as Peterhead, and as may be seen from the return of monthly landings given at page 18, the quantities delivered in East Coast districts during January and February were very considerable.

The bulk of the catch was disposed of for kippering or despatch to the markets in a fresh state, only a few barrels being cured, and at first good prices were realised, but the continued heavy supplies, added to, moreover, by consignments from Norway, soon had the effect of glutting the southern markets, and prices rapidly fell. This, with the loss of netting through stormy weather and weight of fish, rendered operations unremunerative, and in view of the dwindling margin between earnings and expenses, the majority of the fleet ceased work before the end of February and returned to their home ports.

In the Firth of Forth the winter fishing was continued until the

\* Cran = about  $3\frac{1}{2}$  cwt.



end of March, but with little success, the total landings in Leith and Anstruther districts during the first quarter of the year amounting to only 8903 crans, valued at £28,216, as against 10,883 crans, valued at £65,532, for the corresponding period of the previous year.

In the Clyde heavy catches were made in the Kyles of Bute by the seine net motor boats up till the middle of January, when the shoals of herring left this area. Later, they were located on the spawning banks off the Ayrshire coast, but as a result at first of stormy weather, and later, when weather permitted active operations, of the low prices obtained for heavy catches of herrings of comparatively poor quality the fleet was gradually dispersed, and the boats were laid up until the opening of the summer season.

#### SUMMER HERRING FISHING.

Shortly after the termination of the winter fishing a movement was set on foot to secure a repetition of the Government Guarantee given in the previous year, while in order to prevent a recurrence of the low prices and disputes which had followed upon the premature start of the summer fishing in 1919, it was voluntarily agreed among fishermen that the commencement of operations on the East Coast should be delayed until 15th June. This close time did not, however, apply to the West Coast, and by the first week in May 70 steam and 18 motor drifters had begun fishing from Mallaig and Oban.

The first proposals made by the industry for assistance to finance the season's transactions were not acceptable to the Government, and as the 15th of June drew near the feeling of anxiety as to the prospects of the summer herring fishing became acute.

The alternative of assistance under the Export Credits Scheme which had been suggested was regarded as inadequate and quite unsuited to the conditions and circumstances of the industry; and at mass meetings held at the various fishing ports it was resolved that fishing would not be engaged in unless and until the Government decision was reconsidered. The voluntary close time was thus prolonged and was generally observed on the East Coast, except that for a time crews from Eyemouth worked alongside English crews from Northumberland ports, while quantities of surplus bait were landed at the Scottish trawling ports by great line vessels working in the North Sea. The East Coast drifters which had been working at West Coast ports also suspended operations, although a number of Shetland and Stornoway drifters continued fishing from their home ports, and found a ready market for their catches for freshing and kippering. While the operations of boats at work were jealously watched, they were not interfered with by the main body of the fishermen.

Negotiations with the Government in which the Board took an active part were continued, and ultimately the Government sanctioned a guarantee scheme involving the expenditure of £3,000,000, of which not more than £1,800,000 was to be allocated in respect of herrings landed and cured in Scotland or Northumberland from 25th June to 21st August, and the balance to the English autumn fishing.

The form of the Guarantee differed from that of 1919 in several respects, but chiefly in that it provided for the taking over at the time

of cure, and not at the end of the season, of cured herrings which met the conditions laid down, and that minimum prices per cran were fixed for all fresh herrings purchased for curing purposes by curers coming under the scheme. Curers were thus enabled to obtain the money necessary for carrying on operations, whereas under the previous scheme their capital rapidly became tied up in stocks for which there was no immediate sale, while the interests of the fishermen were better secured than in the previous year. As necessary corollaries to the fixing of minimum prices, powers were reserved on the one hand to ration out landings to curers compulsorily if required, and on the other to regulate or suspend the operations of the fishing fleets, in order to prevent the landing of inferior herrings or of quantities in excess of what could be properly dealt with.

The Scottish and Northumbrian section of the scheme was administered by the Board, and herrings offered to them were required to be of sound cure of the following selections :—

Fulls (including Large Fulls),  
Mat. Fulls,  
Matties,  
Spents (including Large Spents), and  
Tornbellies.

The minimum price fixed for fresh herrings purchased under the scheme was 45s. per cran, or 40s. per cran for herrings which, because of heavy supplies, required to be roused. The purchase prices for the cured fish taken over were fixed on a flat rate basis, namely 62s. 6d. per barrel or 67s. 6d. per two half barrels f.o.b. or f.o.r.

An Executive Committee was formed at Aberdeen and Local Committees were set up at all ports or districts where the industry was carried on to assist the Board in administering the scheme. The Board desire to record their appreciation of the valuable assistance rendered by those members of the trade who placed their services at the disposal of the Committees.

When the announcement was made on the 24th June that the Government had decided to sanction a modified Guarantee scheme, curers, boats and men were ready to commence operations, and a general start was made all round the Scottish coasts on the night of 24th to 25th June by one of the finest herring fleets that had ever been fitted out for the fishery. For the first week or two the landings were heavy, and it appeared probable that with the aid of the Guarantee a successful season would be experienced, while the general feeling was that the delay in commencing fishing operations would be to the benefit of all concerned. Recourse had to be made to rousing at some centres, especially at Wick and Stronsay, Orkney, but the fishing soon fell off, and any difficulty in handling the catches quickly disappeared. On the other hand competition for supplies became keen, and although the quality at this stage was as a rule only fairly good, prices began to rise above the minima laid down in the scheme. It soon became evident that the preparations made and the efforts put forth by fishermen and curers alike were not to be crowned with success. Notwithstanding the much greater



fleet engaged, the landings for July amounted to only 1,109,702 cwts. as compared with 1,264,068 cwts. in the previous year, while the figures for August fell to 628,532 cwts. as compared with 843,379 cwts. in August 1919. Curers especially suffered, as in order to utilise the large stocks held at the curing stations and to keep their staffs employed they frequently bought at 50s. to 60s. per cran, calculating that their losses would thus be less than if they ceased operations altogether.

As it was evident that the curers could find no other outlet for the bulk of their produce than by disposal to the Government at the fixed rates, any increase over the minimum prices was sufficient to endanger their margin of profit, and they accordingly endeavoured by concerted action to impose a maximum price of 47s. per cran, but the arrangement gradually broke down at one port after another.

While fishermen certainly benefited from the fairly high prices ruling, they had by no means a profitable season owing to the extreme lightness of their catches, and as results were very partial many finished the season in debt.

In Table E., No. 1 (page 132), will be found particulars by Fishery Districts and selections of the herrings accepted under the scheme. These totalled 409,237 barrels at a purchase price of £1,281,563, 14s. 6d. Though of good quality on the whole the herrings were smaller in size than in a normal season, and a less proportion of full herrings and a correspondingly larger proportion of the smaller selections were obtained than is usually the case.

After the expiry of the period during which the Government guarantee was operative the fleet was rapidly reduced in size, and for the decreased landings, which were disposed of chiefly for kippering and freshing purposes, good prices were obtained.

The total quantity of herrings landed in Scotland for the six months from April to September, including Northumberland but excluding the Clyde area, was 674,914 crans, and of this quantity 533,584 barrels were cured, as against 820,324 crans and 602,913 barrels for the corresponding period in 1919.

For the season steam drifters working off the East Coast of Scotland grossed on an average about £1100 and motor boats £700 or £800, while their expenses amounted to about £600 and £350 respectively.

Various explanations were advanced for the partial failure of the summer fishing, but that most generally accepted attributed it to the presence on the fishing grounds of immense quantities of low forms of marine life. In particular, organisms resembling small jelly-fish and known as salps (*salpæ*) were present in the waters in such numbers as to clog the nets, causing them to hang like a wall, and rendering hauling a lengthy and laborious process. It was suggested that, besides interfering with fishing operations, these salps may have also directly or indirectly driven the shoals away, being possibly obnoxious to the herrings themselves or to the organisms on which herrings usually subsist, but probably the presence of the salps was merely a symptom of hydrographical conditions unfavourable to the presence of herring on the usual grounds. Dog-fish were also present in unusual numbers, and this factor must also be taken into account.

## CLYDE HERRING FISHING.

In the Clyde a fairly regular fishing continued throughout the summer and autumn, and in the later months of the year the shoals entered Loch Fyne, where large hauls were secured by the seine net motor boats, and the earnings of the crews were highly satisfactory up to the end of the year. The total landings of herrings in Inveraray district for the year 1920 were 93,982 cwts. valued at £36,281. These figures show increases as compared with 1919 of 52,009 cwts. and £20,088, and have not been reached since 1899, when the landings for the district were 109,810 cwts. valued at £40,876.

## ENGLISH HERRING FISHING.

*East Anglian Fishing.*—Scottish fishing vessels which intended to participate in the East Anglian autumn herring fishing, numbering nearly 800 steam drifters and between 200 and 300 motor boats, proceeded south from the middle to the end of September, while Scottish curers and kipperers also moved their workers, to the number of over 7000, and their curing stocks to Yarmouth and Lowestoft.

The technical administration of the Guarantee in East Anglia was entrusted to a number of the Board's Fishery Officers, whose services were lent to the English Fishery Department for the purpose.

The East Anglian fishing proved very productive, and this gave especial satisfaction, following as it did upon the poor and disappointing season in Scottish waters. The season was, however, not without its vicissitudes, as the fishing had just reached its height when the coal strike occurred, and drifters were restricted to 50 per cent. of their normal requirements of coal. Fortunately the shoals of herrings, which to begin with were found from 50 to 60 miles away, gradually worked their way towards the land until they were only 10 miles off shore, so that no great interruption to fishing was caused. Indeed, on several occasions, it was found necessary to restrict fishing operations to enable curers and freshers to clear the heavy landings on hand. From a fisherman's point of view the season was very satisfactory, but owing to the difficulty of finding remunerative markets for cured herrings results were not so satisfactory for the curers, who, however, received under the Guarantee prices sufficient to recoup their expenses.

The earnings of the Peterhead fleet, which may be taken as fairly representative of Scottish boats, were for steam drifters from £782 to £2850, averaging £1400; and for motor boats from £700 to £1200, averaging £850. Working expenses were heavier than anticipated, the averages for drifters and motor boats being £850 and £350 respectively, but this is accounted for by the heavy cost of coal, which, as the result of the strike, was in many instances as high as £5 per ton.

The following statement shows the number of Scottish fishing boats employed, and the quantity and value of herrings landed by them at the English and Irish fishings, for the whole year.



STATEMENT showing the number of Scottish Fishing Boats employed, and the quantity and value of herrings landed by them at the English and Irish fishings.

Scottish Dis- tricts to which Boats Belong.	PARTICULARS OF FISHING ON THE COASTS OF ENGLAND.								
	Steam.			Motor.			Total.		
	Vessels.	Quantity.	Value.	Vessels.	Quantity.	Value.	Vessels.	Quantity.	Value.
	No.	Cwts.	£	No.	Cwts.	£	No.	Cwts.	£
Eyemouth -	20	62,457	39,250	22	34,800	21,780	42	97,257	61,030
Leith -	2	2,590	1,700	20	20,930	15,500	22	23,520	17,200
Anstruther -	40	103,201	68,800	45	72,429	48,285	85	175,630	117,085
Montrose -	5	12,341	7,385	8	8,407	5,150	13	20,748	12,535
Aberdeen -	7	13,401	7,685	..	..	..	7	13,401	7,685
Peterhead -	115	265,650	162,150	5	7,266	4,155	120	272,916	166,305
Fraserburgh -	87	210,868	120,495	43	80,220	45,840	135	291,088	166,335
Banff -	34	177,625	121,800	12	14,000	9,600	96	191,625	131,400
Buckie -	270	544,680	364,500	110	148,977	97,900	380	693,657	462,400
Findhorn -	112	245,000	168,000	3	4,025	2,700	115	249,025	170,700
Cromarty -	1	2,640	1,770	..	..	..	1	2,640	1,770
Wick -	15	23,730	13,550	14	20,300	12,460	29	44,030	26,010
Shetland -	9	20,216	12,996	6	6,673	4,294	15	26,894	17,290
Stornoway -	2	4,336	2,586	..	..	..	2	4,336	2,586
Total 1920	769	1,683,735	1,092,667	293	418,032	267,664	1,062	2,106,767	1,360,331

Scottish Dis- tricts to which Boats Belong.	PARTICULARS OF FISHING ON THE COASTS OF IRELAND.								
	Steam.			Motor.			Total.		
	Vessels.	Quantity.	Value.	Vessels.	Quantity.	Value.	Vessels.	Quantity.	Value.
	No.	Cwts.	£	No.	Cwts.	£	No.	Cwts.	£
Eyemouth -	..	4	3,220	2	3,095	2,650	2	3,095	2,650
Fraserburgh -	..	..	3,312	..	..	..	4	3,220	3,312
Findhorn -	13	24,815	19,500	..	..	..	13	24,815	19,500
Total 1920	17	28,035	22,812	2	3,095	2,650	19	31,130	25,462
Grand Total 1920	786	1,716,770	1,115,479	295	421,127	270,314	1,081	2,137,897	1,385,793

### WEST COAST LOCH FISHING.

The loch fishing off the north-west of Scotland, which terminates the year's operations, gradually developed during the closing months of the year, but towards the end the shoals became small and scattered, and the fishing as a consequence irregular, and many of the East Coast crews decided to lay up their boats until prospects improved.

### LANDINGS IN PRINCIPAL DISTRICTS.

The following statement shows the quantity and value of herrings landed in the most successful districts during 1920 and 1919 :—

	1920.		1919.	
	Cwts.	£	Cwts.	£
Wick . . .	537,377	393,656	426,861	217,109
Fraserburgh . . .	501,041	363,473	811,010	346,392
Peterhead . . .	367,033	285,884	500,821	221,258
Shetland . . .	310,715	227,129	507,687	196,888
Fort William . . .	290,069	236,703	378,561	411,208

The proportions of the year's catch landed by steam, motor and sail drifters respectively were roughly 54 per cent., 39 per cent. and 7 per cent., as compared with 47 per cent., 41 per cent. and 12 per cent. in 1919.

The quantity of herrings landed in each district monthly in 1920, together with the totals for 1919, is shown in the following table:—

RETURN showing the Quantity of Herrings landed in each District in each Month of the Year 1920.

District.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Eyemouth	..	237	161	..	7,207	10,364	17,224	20,283	6,195	..	21	..	61,692
Leith	2,586	7,318	6,658	1,036	682	724	200	555	1,646	298	216	613	22,622
Anstruther	..	2,886	11,711	567	9	..	2,625	6,481	60	..	..	..	24,831
Montrose	376	47	14	..	64	63	73	237	115	140	20	52	1,201
Stonehaven	..	..	..	..	..	423	140	38	6	..	..	..	607
Aberdeen	2,907	2,741	447	816	2,057	1,775	13,681	29,174	30,137	516	105	..	84,356
Peterhead	7,434	18,556	1,170	21	10	29,232	215,051	99,159	1,015	..	..	385	367,033
Fraserburgh	9,523	15,495	346	..	..	46,028	345,248	78,488	2,808	..	..	102	501,041
Banff	917	1,676	..	..	..	1,942	18,606	8,949	135	..	..	60	32,285
Buckie	30,663	17,366	112	..	..	4,221	34,419	16,197	..	..	780	570	104,328
Findhorn	17,366	9,932	7,206	..	..	309	8,315	8,729	3,061	4,476	4,415	728	64,537
Cromarty	..	..	..	..	..	3	..	126	132	54	8	..	323
Helmsdale	3	..	..	..	..	14	113	1,644	309	..	..	..	2,088
Lybster	4	..	..	..	7	..	177	1,227	139	..	..	..	1,604
Wick	107,636	83,055	2,898	56	3,941	78,218	157,930	89,446	8,916	1,820	1,001	2,380	537,377
Orkney	98	84	14	..	35	23,420	56,931	11,137	..	..	..	..	91,728
Shetland	..	5,092	4,550	67	382	30,373	149,698	120,399	154	..	..	..	310,715
Stornoway	43,495	48,851	1,281	315	6,772	28,111	36,229	73,982	5,714	1,393	7,059	23,799	272,001
Barra	966	373	122	122	4,488	8,086	7,806	18,579	479	..	122	15	41,163
Loch Broom	4,270	28	14	..	2	..	181	466	322	25	1,675	290	7,273
Loch Carron	..	..	..	..	..	..	..	..	..	..	..	..	..
and Skye	25,359	14,292	144	91	1,491	2,284	887	3,438	2,186	3,018	7,269	19,944	80,403
Fort-William	69,388	72,618	1,523	6,650	37,748	22,315	13,771	21,120	2,888	1,753	10,371	29,924	290,069
Campbeltown	5,116	3,591	2,365	1,662	822	3,698	9,150	12,590	15,400	7,676	4,118	1,904	68,101
Inveraray	10,213	..	..	658	1,245	3,844	8,155	1,984	1,069	1,722	19,590	45,648	98,628
Rothsay	25,408	8,946	1,330	263	213	878	1,848	1,750	1,526	293	1,159	6,982	50,596
Greenock	490	1,204	..	609	203	1,025	1,184	370	2,020	374	231	1,663	9,373
Ballantrae	973	12,087	245	7	1,467	3,626	6,945	1,945	3,240	644	1,078	2,383	34,640
Totals 1920	365,186	316,513	42,311	12,940	63,845	300,455	1,109,702	623,532	89,722	24,207	59,233	137,454	3,155,165
Totals 1919	349,123	337,943	64,641	22,506	127,567	361,532	1,264,068	843,379	72,718	46,437	57,793	196,779	3,735,486

#### TRAWLING FOR HERRINGS.

The system of trawling for herrings in British waters by means of the ordinary commercial steam trawler commenced about the beginning of the present century, but little part was taken in this new method of fishing by Scottish fishermen until 1908, when 21 vessels operated from Aberdeen. No great measure of success, however, attended the efforts put forth in the years up to 1911. In 1912 the total landings of trawled herrings in Scotland were 5714 cwts., but in 1913 a considerable improvement took place, and the landings amounted to 12,106 cwts. Hostilities broke out before the 1914 season had begun, and no landings of any consequence were made during that year, or during the war; and the results of 1918 and 1919 were almost negligible.

In 1920, however, a revival of this method took place. Throughout the summer many trawlers occasionally landed herrings caught near the surface or at intermediate depths while shooting or hauling their trawling gear on various grounds in the North Sea, but herring trawling proper did not commence until about the 25th August, from which date operations were carried on regularly until



the season terminated on 2nd October. The most prolific grounds proved to be what are known as the Fladden Grounds, from 80 to 120 miles north-east by east and east-north-east from Aberdeen. Before the war this area was regularly fished in the summer months by trawlers, but no "ground" herrings of any consequence were found there. During 1920, however, an immense shoal of herrings was located on these grounds, which had not been fished to any extent since 1913. The general opinion among fishermen was that the herrings had congregated there to spawn, as when operations commenced the majority of them were found to be full of milt or roe, whereas towards the end of the season the catches consisted largely of spent fish.

At the beginning of the season the ordinary trawl net was employed. Some skippers, however, laced and contracted the meshes of the nets so as to prevent the escape of the herrings during the hauling of their nets. Five or six vessels were fitted with a special trawl net, and their catches were heavier than those of the vessels which used the ordinary trawl net laced up. Some 30 German trawlers which were working on the Fladden Grounds at the same time with special trawl nets were also reported to have met with great success. The special net resembles the ordinary net in almost every respect except that the former is made with a very small mesh in the belly, baitings and cod-end.

In the North Sea herring trawling is prosecuted always in daylight, and the best catches are secured generally between the hours of 10 a.m. and 5 p.m. Operations are carried on at full steaming speed, and consequently the fastest vessels are the most successful.

In all 71 trawlers were engaged from Aberdeen during the past season. They made from one to six voyages each to the herring grounds, the aggregate for the season 25th August to 2nd October being 180, and the landings amounted to 10,830 crans of the value of £36,714. The most successful vessel earned £2553 in four trips, which included the value of the few white-fish landed. The next best earnings were £2200, £1848, £1744 and £1662. The herrings were of very good quality, consisting mostly of fine full fish numbering from 820 to 900 per cran. The bulk of the catch was purchased for kippering, and the quality of the kippers was considered excellent.

#### DISPOSAL OF HERRING CATCH.

The quantity of herrings consumed fresh in Scotland or despatched fresh to the English markets during the whole year was approximately 700,000 cwts. or 22 per cent. of the total landings, as against 870,000 cwts. or 23 per cent in the preceding year, and 300,000 cwts., representing approximately 6 per cent. of the catch in the years before the war. The proportion kippered amounted to 28 per cent. of the landings as against 12 or 13 per cent. in pre-war years, so that about half of the total landings in 1920 was placed on the home markets, as against only one-fifth before the war, while the actual quantity so disposed of has been nearly doubled. This is specially gratifying in view of the very unsatisfactory state of the chief overseas markets for cured herrings, and is largely attributable to the efforts made to develop the home market during the war.

Particulars of the quantities of herrings cured, with the methods of cure, are given in Table D., No. I. (p. 126). Fish cured in Northumberland, it may be noted, are included in this table. The total cure shows a decrease from the preceding year, but this was little more than in proportion to the decrease in the landings. The quantity cured gutted totalled 552,828½ barrels, considerably less than half the quantity cured in normal years. Of this total 409,237 barrels, or 74 per cent., were handed over to the Board under the Guarantee, for which curers will have received when final settlement is made the sum of £1,281,563:14:6. Only 20,735 barrels were cured ungutted, as against 61,535 in 1919, the demand for such herrings in France for conversion into reds having again fallen off. The quantity made into bloaters or reds in Scotland was 14,700 crans, showing as in the case of kippers a substantial increase on the pre-war figures. The quantity tinned does not show a similar increase, although tinning continued to be an important branch of the industry. Aberdeen, with Fraserburgh and Eyemouth, accounted for nearly all the herrings tinned or made into bloaters or reds, but the other methods of curing are carried on all round the coast.

The cost of curing in any form during the past year was exceptionally high, as outlays in respect of curing material, labour and freights were alike heavy, while as a result of the shortage in the landings not only had higher prices to be paid for herrings for curing, but establishment and other expenses, which are incurred by curers independently of the quantities dealt with, had to be distributed over a smaller total cure, and the cost per barrel was correspondingly increased.

The values of the herrings after cure are given in Table E., No. IV. (p. 137), which shows the total to have been £3,504,176. As regards gutted herrings, however, the values entered, although based on the prices ruling during the year and in the case of Government stocks on the selling prices fixed, require to be discounted, as large quantities were still on hand at the end of the year, and there was little prospect of their being disposed of at the prices fixed.

#### EXPORTS.

Until the outbreak of war the Scottish export trade in cured herrings was conducted chiefly with Russia and Germany. During the past year, however, trade with Russia was not permitted; while the German Government, with a view evidently to reducing the price of herrings by the elimination of competitive buying and obtaining the best price possible for large quantities of cheaper grade Norwegian herrings already on hand or officially contracted for from Norway, had vested in a Herring Buying Association a virtual import monopoly, which was in operation throughout the greater part of the year. These two factors, combined with the dislocation of the international exchanges and the high cost of production and freight, greatly restricted the export of herrings during the past year.

As shown in Table E., No. II. (p. 134), the total export for the year amounted to 333,315½ barrels, being little more than half that for the previous year and less than a fourth of that for 1913. The exports



represented only 58 per cent. of the cure during the year, as against 99 per cent. in 1913 and 87 per cent. in 1919.

Through the operation of the Herring Guarantee scheme the greater part of the year's cure of herrings was acquired by the Government, and sales had therefore to be arranged chiefly by the Executive Committee in Aberdeen.

Scottish herrings for a time met with a fair demand on the Continent, going chiefly to Poland, Roumania, Finland, and in less quantities to the Baltic Provinces. The herrings for Roumania were shipped direct to Galatz instead of being taken overland as in pre-war years. Unfortunately herring exports were restricted during the coal strike in October, and on its termination the rate of exchange with Poland, which was the chief market, had become so adverse that little further business was transacted, while the restrictions imposed by the Latvian Government on remittances to this country in payment for herrings put an end to the shipment of herrings by private firms to that country. The decision of the German Government to terminate the import monopoly above referred to as from 15th December improved the prospects of export to Germany, but it was made too late to have any marked effect for the year. The exports to places out of Europe consisted mainly of West Coast matjes shipped to the United States, chiefly for the Jewish population there, but although the exports to that market increased by 10 per cent. as compared with 1919, they reached only two-thirds of the pre-war figure.

Practically two-thirds of the herrings accepted under the Government Guarantee were still on hand at 31st December, and the total stock of cured gutted herrings on hand in Scotland at that date were 278,327 barrels, of which 267,394 barrels were Government stocks and 10,933 barrels were in private hands.

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## CHAPTER IV.

### FISHERIES OTHER THAN HERRING.

#### DEMERSAL FISH.

Of fish other than herrings, sprats, sparlings and mackerel, the total landings in Scotland for the year amounted to 3,069,415 cwts., valued at £4,238,032, being an increase of 43 per cent. in quantity but of only 12 per cent. in value as compared with the landings for 1919. The quantity still fell short of that of 1913, the last year before the war, by 226,842 cwts., although owing to the great advance in prices the value was greater by £2,413,291. The average price per cwt. for the year 1920 was 27s. 7d., as against 35s. 6d. in 1919 and 11s. 9d. in 1913.

The significance of these figures lies in the fact that while the output of this branch of the industry again reached practically its pre-war volume, the wholesale price of fish, although still high as compared with the old standards, fell considerably as compared with

the immediately preceding years, and reached a level which owing to the continued high working expenses too often proved unremunerative to the producer.

It was frequently to be observed during the year that the financial results of the fishing were best when broken weather restricted supplies, and it was evident that the productive power of the industry in good weather was too great for the existing channels of distribution. At the same time the fall in wholesale quotations did not appear to be fully reflected in the retail prices, so that it was not followed by such an increase in the home consumption as might have been anticipated, and as is essential to the revival of the industry.

Towards the total catch haddocks contributed over one third, followed at no great distance by cod and codling. This it may be noted is a reversal of the order which prevailed before the war, when large quantities of cod were brought in by foreign and other trawlers from Icelandic waters. The fish could doubtless still be procured and landed in the same abundance as formerly, but owing to the state of the dried-fish markets there was little inducement to do so during the year. Next in order of value, although not of quantity, came halibut, plaice and lemon soles. Of halibut and plaice the year's landings were remarkably large. Halibut is taken chiefly by great-line vessels, but the other four kinds named by trawlers.

Details of the landings for each fishery district with summaries for the East Coast, etc. and for the whole of Scotland are contained in the Table B., No. II. (p. 60), while the following statement shows, also by districts, how the landings were distributed over the year.

RETURN showing the Quantity of White Fish landed in each District in each Month of the Year 1920.

Districts.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Eyemouth -	2,807	1,733	560	700	434	71	214	187	139	998	959	1,002	9,804
Leith -	13,163	28,491	32,310	38,459	42,297	48,730	44,393	43,173	51,102	47,728	37,861	44,615	472,317
Anstruther -	3,183	3,044	2,352	1,751	2,203	2,532	2,626	2,284	2,481	1,842	1,823	2,141	28,267
Montrose -	8,721	8,936	7,727	7,619	12,014	12,815	12,147	11,637	13,525	9,904	6,963	8,101	120,159
Stonehaven -	862	652	516	871	1,373	1,450	1,446	1,559	1,459	1,207	688	653	12,741
Aberdeen -	105,611	128,938	166,504	233,608	244,839	257,558	195,699	153,457	147,431	142,580	119,507	145,761	2,041,493
Peterhead -	1,326	3,158	2,655	2,543	4,054	2,951	1,156	1,236	1,213	918	454	421	22,585
Fraserburgh -	3,389	2,664	2,386	2,916	4,624	3,480	1,354	1,381	2,525	3,122	1,845	2,427	32,113
Banff -	5,380	4,025	2,662	1,470	1,617	1,697	1,836	1,646	4,154	5,014	3,715	4,492	37,708
Buckie -	3,523	6,889	12,522	1,948	1,465	905	823	1,517	1,302	1,415	1,110	1,909	35,328
Findhorn -	2,898	4,579	9,183	1,657	1,904	2,467	2,929	2,550	2,966	2,644	2,195	3,047	39,019
Cromarty -	833	1,069	1,256	1,043	940	1,007	1,320	1,087	941	1,009	842	1,131	12,478
Helmsdale -	1,277	1,695	1,819	1,060	771	856	920	908	1,254	1,239	1,260	2,268	15,327
Lybster -	130	360	304	186	230	153	70		30	316	631	687	3,097
Wick -	1,529	2,182	2,166	993	1,793	2,509	1,354	1,630	901	1,164	2,043	2,044	20,358
Orkney -	258	204	432	564	631	1,120	726	683	728	908	464	921	7,639
Shetland -	4,200	3,848	1,473	1,741	1,225	2,160	5,412	3,443	836	711	1,513	3,685	30,252
Stornoway -	1,753	2,205	2,023	1,657	3,510	3,893	4,492	2,349	2,609	1,309	1,478	1,822	29,100
Barra -	190	233	252	373	432	280	524	825	353	352	223	263	4,300
Loch Broom -	262	882	2,793	2,255	387	401	407	447	417	519	410	413	9,593
Loch Carron and Skye -	2,474	2,318	1,802	802	131	117	94	58	65	102	86	437	8,436
Fort-William -	1,864	7,520	10,695	8,175	3,330	716	364	341	402	633	315	442	54,707
Campbeltown -	162	664	2,603	1,869	203	312	168	419	429	329	115	169	7,447
Inveraray -	102	100	170	76	48	14	23						533
Rothsay -	262	697	1,614	909	259	43	56	15	59	18	177	196	4,385
Greenock -	56	273	169	146	50	41	55	41	50	100	28	42	1,051
Ballantrae -	1,777	4,838	8,860	2,576	1,562	738	627	728	811	1,748	1,620	1,559	27,444
Totals 1920	168,442	222,197	277,748	317,967	332,341	349,016	281,235	233,701	233,182	227,824	188,339	230,648	3,067,631
Totals 1919	85,083	141,017	148,589	194,736	275,045	224,017	262,155	237,874	150,054	103,012	125,118	187,635	2,134,335



## TRAWLING.

Steam trawling retains the premier position in the capture of demersal fish, accounting during 1920 for about three-fourths of the quantity and value of the landings. Landings by foreigners during the year were restricted to an insignificant quantity brought in by a Norwegian trawler which made three arrivals at Aberdeen, in striking contrast with the heavy catches landed by the German trawlers right up to the outbreak of war. If the contribution by foreigners be left out of account the balance for the year, representing the landings in Scotland by British trawlers, is the greatest recorded. This was to some extent to be anticipated from the increase of the trawling fleet to more than its pre-war dimensions, but was also partly due to the replenishment of the stock of fish in consequence of the restriction of fishing during the war. Whether the increase will be permanent cannot, however, yet be stated.

Over three-fourths of the total trawl landings were made at Aberdeen, nearly one-fifth at Granton, and the comparatively small balance chiefly at Dundee. An attempt was made during the year to develop Stranraer as a trawling centre, and two steam vessels belonging to a newly formed Company operated from that port from January till May, when they were transferred to Fleetwood, and the original idea was apparently abandoned. The chief drawbacks were evidently the lack of harbour facilities, and adequate and fast railway communication with the large markets.

Trawlers based on Granton and Dundee worked entirely in the North Sea, principally on the grounds off the May Island and Bell Rock respectively. All the long voyage vessels, in addition to many trawlers of the smaller classes, were based on Aberdeen. For none of the classes of vessels engaged were the results of the year's operations quite satisfactory, but the large vessels running long voyages to Iceland, Faroe and the grounds to the north-west of Scotland suffered most. Early in the year, when fairly good prices prevailed, these vessels were again landing by far the greater proportion of the trawl catch, but with the advent of better weather and consequently increased landings prices fell away, especially for fish of inferior quality, and some 30 of the large trawlers were laid up for about three months from the end of May, while 25 began to work as liners and others ran short trips, in order to obtain the higher prices ruling for the better quality of fish thus landed. Information as to the earnings and expenses of this class of vessel with observations on "salting voyages" to Icelandic waters is given in the report by the Assistant Inspector in charge of Aberdeen District (p. 86).

On the whole the smaller trawlers were fairly successful. The problem with which they were faced during the greater part of the year was not a difficulty in securing catches, but rather the large proportion of small fish, chiefly haddocks, included in their shots, which when supplies were plentiful frequently proved unsaleable as food and had to be disposed of as manure.

The only serious dispute in the industry during the year was the strike of trawl hands at Granton, which began in November 1919, and was settled by mutual concessions on 19th January. But

the trawling industry was considerably affected by the coal strike in the autumn, when it was found necessary to restrict bunker supplies to 50 per cent. of normal requirements. For the carrying out of the rationing scheme the intimate knowledge of the industry possessed by the Board's staff was at once made available. Towards the end of the year a demand for a 50 per cent. increase in wages was made by the men employed on the Aberdeen trawlers, but in view of the fact that a large number of the vessels were being run at a loss the claim was never regarded seriously, except as an indication of the opposition which the generally anticipated reduction in wages would meet.

A chart showing the course of the average weekly prices of white fish at Aberdeen for the years 1913, 1918, 1919 and 1920 is reproduced opposite. In 1920 prices were well maintained, usually about the maxima prescribed by the Fish (Prices) Order, 1919, during January and the early part of February, but thereafter fell away, and never really recovered. The control of fish prices became merely nominal, and the Order was suspended as from 17th May, although not abrogated before the end of the year.

#### GREAT LINING.

Steam lining was conducted chiefly from Aberdeen, at which port over 85 per cent. of the catch was landed. Great lines were used occasionally also by large motor vessels, usually when small lining was unproductive.

The great-line vessels working from Aberdeen consisted of two classes, namely large vessels, in many instances converted trawlers, which ran long voyages to the Faroes, Rockall, St. Kilda, Eagle Island and other distant northern and western grounds, and vessels of the drifter class belonging to various East Coast ports, which fished chiefly for cod in the North Sea. As prices for line fish were never depressed to the same extent as those for trawl fish, great lining by steam vessels was probably the most successful branch of fishing prosecuted during the year, and the larger vessels especially had a profitable season, securing on the distant grounds excellent shots of halibut, which represented more than half the value of the total great-line catch for the year. The number of large liners was augmented during the summer months by vessels which were finding long voyage trawling unremunerative, although unfortunately a few of them were no more successful at lining. All these vessels had reverted to trawling by the end of September in view of the advent of less settled weather. As the prospects for the herring fishing early in the year were doubtful, many of the vessels of the drifter class prolonged the great-line fishing for cod, which is carried on in the spring and early summer, with fairly satisfactory results.

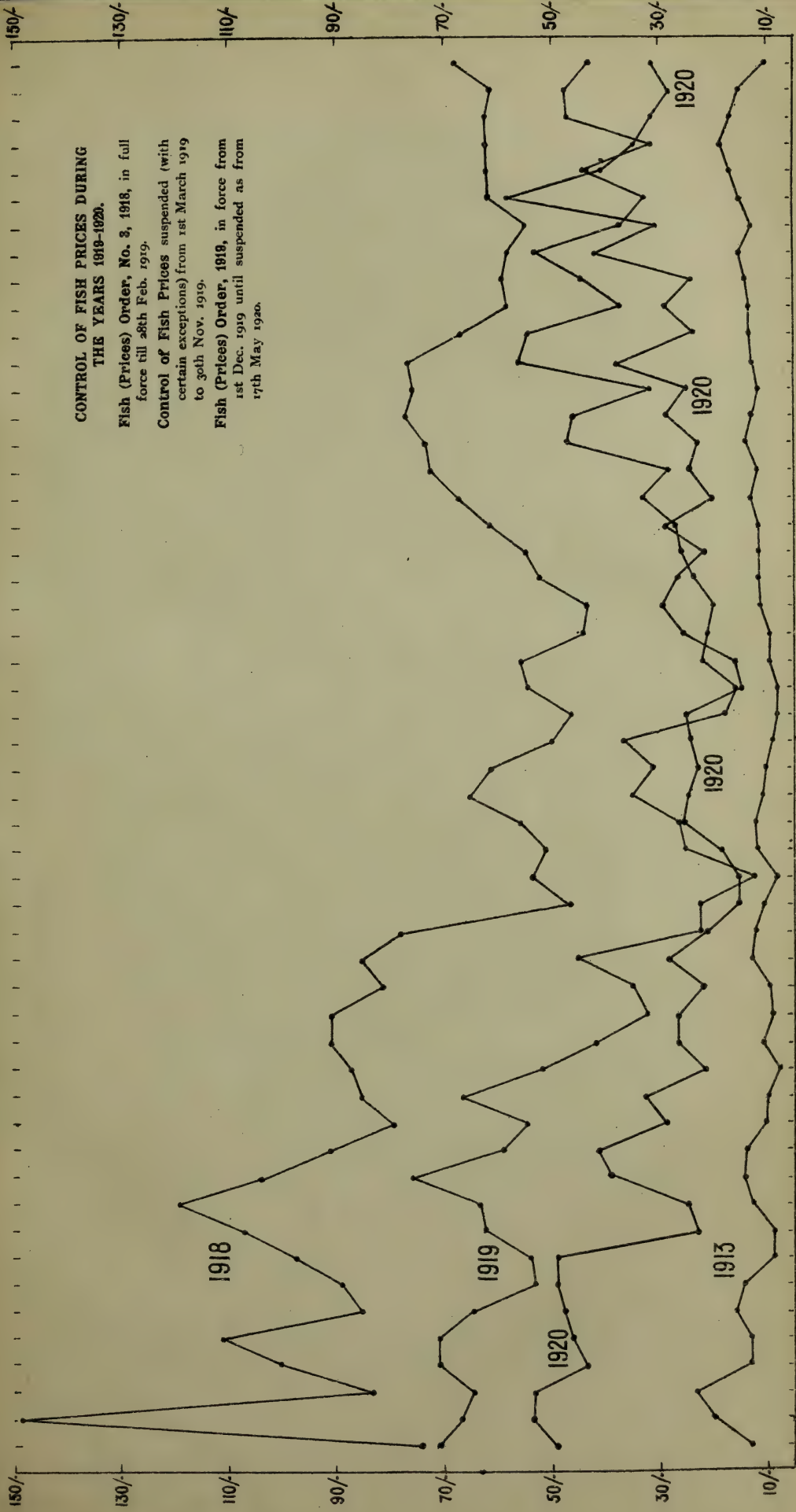
Great-line fishing for cod in the North Sea was carried on during the same period by Eyemouth drifters based on North Shields; but their catches are not included among the Scottish landings.

On the West Coast operations were conducted from Mallaig and Oban by a few East Coast steam and motor vessels in the early part of the year; conger eels, roker and cod were the principal kinds taken.



# AVERAGE WEEKLY PRICES PER CWT. OF WHITE FISH AT ABERDEEN FOR YEARS 1913, 1918, 1919, AND 1920.

JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.



## CONTROL OF FISH PRICES DURING THE YEARS 1918-1920.

- Fish (Prices) Order, No. 3, 1918, in full force till 28th Feb. 1919.
- Control of Fish Prices suspended (with certain exceptions) from 1st March 1919 to 30th Nov. 1919.
- Fish (Prices) Order, 1919, in force from 1st Dec. 1919 until suspended as from 17th May 1920.





This method of fishing was not so successful as usual in Shetland waters, owing both to an apparent scarcity of white fish on the usual grounds and to difficulty in obtaining herring bait in the spring months.

The prosecution of this fishing at other centres was on a much smaller scale.

#### SMALL AND HAND LINING.

The financial results of the small and hand line or inshore fisheries during the year, like those of other branches, were rather poor. The total quantity and value of the line catch by motor and sail vessels for the year (including, however, motor great-line shots, which are not distinguished) were 398,849 cwts. and £560,526, as against 494,236 cwts. and £885,535 in 1919 and 496,329 cwts. and £1,321,294 in 1918, in which year the value reached its maximum. It was often only with difficulty that a living wage could be secured by these methods of fishing, as the high cost of oil, of bait and of labour for baiting lines absorbed the greater part of the proceeds of the catch. The fishing was nevertheless prosecuted when weather permitted all around the Scottish coasts, while only in a few exceptional cases was there any deliberate reversion from motor to sailing boats. In 1913, when the motor and sail line catch totalled 355,985 cwts., valued at £178,945, only about one-eighth was landed by motor vessels, whereas last year the proportion was over two-thirds. Small and hand line fishing, after a temporary revival during the war, are evidently again falling off, and in view of the heavy labour involved in the baiting of lines a further decline is probable.

#### SEINE FLOUNDER NET FISHING.

Owing to the poor financial results of small-line fishing, increased attention was paid during the year to seine flounder net fishing for flat fish, as working costs are less than in the case of lining, the bait and baiting difficulty in particular being completely obviated, although on the other hand the method is more susceptible to interruption by rough weather. The fishing is conducted mainly by motor boats, and the bulk of the catch consists of plaice. The catch for the year amounted to about 15,000 cwts., valued at nearly £40,000, as against 5500 cwts., valued at £19,000, in 1919.

This method of fishing, which, as carried on in Scotland, is practicable only in comparatively shallow water, is really a modified form of trawling, and as regards the territorial waters is permitted only in the Clyde and in certain restricted areas in the Firth of Forth and on the East Coast, which have been opened to it by bye-law. During the year applications were made for the extension of the permissive areas on the East Coast, and local inquiries were accordingly held, but no decision in the matter was reached before the end of the year.

#### COD NET FISHING.

Fishing for cod by means of anchored nets was as usual conducted in the spring months, when the cod congregate for spawning, chiefly in the Moray Firth and also in the Firth of Forth, off Badachro in

Western Ross and off the Ayrshire coast. The Moray Firth fishing was not so successful as in previous years, as the fish appeared to be scarce; and as prices were low and expenses heavy the fishing was discontinued earlier than usual. The results of the Firth of Forth fishing were again disappointing, owing to stormy weather; while at the Badachro fishing, although catches of cod and saithe were slightly better than in 1919, the low prices prevailing made the season unprofitable. With the assistance of a guarantee from the Board of Agriculture for Scotland (as representing the old Congested Districts Board), the Board were able to arrange for the services of a motor boat to convey a fair proportion of the catch to Kyle, and but for this the results might have been poorer.

#### SPRATS, SPARLINGS AND MACKEREL.

Owing to the plentiful supply of both herrings and white fish during the year, there was little or no demand for sprats, and nearly the whole of the landings were disposed of as manure. These fish are taken during the winter months in the Forth and Tay estuaries and in the Inverness Firth; and the total landings for the year, being the produce of the later months of the 1919-20 season and of the earlier months of that of 1920-21, amounted to 33,189 cwts., valued at £5001, of which the greater part was taken in the Tay estuary. The quantity cured was 1200 cwts., all pickled in Findhorn district.

The year's total catch of sparlings was as usual insignificant.

The landings of mackerel amounted to 69,746 cwts., valued at £33,490, taken for the most part at the chief drifter ports in the course of herring fishing. For this variety also the demand has fallen off with the passing of the war time shortage. Only a small proportion, about 3 per cent., was preserved, being tinned, pickled or smoked.

#### CRUSTACEANS AND SHELL FISH.

Owing to the unremunerative results obtained from small-line fishing, greatly increased attention was paid to creel fishing, and the catch and value of lobsters and crabs show satisfactory increases. Lobsters are taken chiefly in the Hebrides and off the neighbouring mainland coast, in the Orkneys, and off the East Coast southwards from the Firth of Tay, and crabs are taken mostly in the last-named area. The yield of mussels shows an increase, but it was still far from adequate to meet the demand for bait in Scotland, and local supplies had to be augmented by consignments obtained from England and Ireland; owing, however, to increased railway rates and delays in the service these were more expensive and unsatisfactory than ever, and the Board have under consideration the practicability of developing local sources of supply. Nearly all the oysters taken came from the Loch Ryan beds, but the total yield was comparatively small. The "unclassified" shell fish consisted chiefly of shrimps taken in the Solway area, and cockles and periwinkles from various districts, chiefly on the West Coast.



## WHITE FISH CURING.

Nearly one half of the white fish landed in Scotland in 1920 was preserved in some form, representing a total value after cure of £2,158,485, in addition to imported fish cured, valued at £51,405. The industry is largely centralised in Aberdeen, where 90 per cent. of the quantity preserved in 1920 was dealt with. It is dependent on the yield of the trawling industry, or rather the two industries are normally interdependent, but during the past year, owing to the poor demand for cured dried fish and also to a shortage of skilled workers, only a comparatively small proportion, about one-third, of the cod landed was cured, and the trawling industry as already noted suffered in consequence. The industry as a whole, however, again expanded considerably after the lean war years. Particulars of the cure for 1920 are given in Table D., No. I. (b), (p. 127), and of the corresponding values in Table E., No. IV. (p. 139); while the quantities of fish used fresh, arrived at by deducting the weight fresh of fish cured from the total landings, are given in Table C. (p. 125). Smoked haddocks, which sell chiefly in the home markets, predominated in the cure in every district in which preserving was carried on to any extent; while cod, saithe, ling and whittings were the principal other kinds dealt with. The only new departure was the tinning of cod roes, of which 200 cwts. were put up in Aberdeen. Tinning showed a considerable expansion during the year, reaching a volume never before attained in Scotland, while it was anticipated that the tinning factory, which forms a chief feature of the development schemes at Stornoway, would be ready to begin operations in 1921.

## EXPORTS.

Compared with 1913 the total export of dried salted cod, etc., during the year was less by 37 per cent., but it showed an increase of 60 per cent. over that for 1919. Details of the year's exports of fish other than herrings are shown in Table E., No. II. (p. 134).

The 6294 cwts. of sprats entered as exported to the Continent represent 2000 barrels which were cured towards the close of 1919, and shipped to Sweden early in 1920.

The condition of the markets for dried salted cod and other white fish, although not quite so adverse as in the case of those for cured herrings, was by no means favourable, financial conditions prevailing in importing countries being largely responsible for the depressed conditions. The Norwegian Government, in attempting to realise old stocks accumulated towards and since the end of the war, placed large quantities at cheap rates on the world's markets, and it is of interest to note that Newfoundland, the other chief competitor with Great Britain in the export of dried salted fish, decided upon a policy of controlling the prices and shipments of cod fish exported, in the hope of securing better prices than were current, but owing to the high minimum prices fixed few sales were effected, and the policy was finally abandoned early in 1921.

The better qualities of dried salted fish are disposed of chiefly in Spain and other Mediterranean countries and in South America. Ireland consumes some of the cheaper varieties, and the poorest qualities are marketed in North Africa and Madeira.

## WHALING.

Whaling in its modern form was conducted in Scottish waters from 1903 to 1914, but was thereafter completely suspended by order of the Admiralty until last year. Before the war it was conducted by five companies, four of which had stations in Shetland and one in Harris, most of which were Norwegian or of Norwegian origin. Feeling against whaling on account of its alleged injurious effect upon herring fishing has run high in the Scottish fishing centres, especially in Shetland, almost since its introduction, and as mentioned in the last Annual Report, a Committee of the Board which inquired into the question in 1919 recommended the abolition of whaling in Shetland. In their recommendation the Board concurred, but so far no action has been taken in the matter.

Two of the Shetland stations (viz. those in Olna and Colla Firths) and that in Harris were in operation during 1920, employing their full complement of nine whaling steamers. From the returns of whales landed by the limited fleet at work it would appear that the virtual close time resulting from the war must have led to an increase in the numbers of whales in Scottish waters; the total number of all kinds landed in each year since whaling began is shown in the following table:—

Year.	No. of Whales landed.	Year.	No. of Whales landed.
1903	127	1910	615
1904	327	1911	503
1905	533	1912	444
1906	710	1913	437
1907	600	1914	599
1908	651	1920	658
1909	730		
		Total	6934

Particulars of the whales taken in 1920 as compared with the results in 1914 are as follow:—

	Male.	Female.	Total 1920.	Total 1914.
Finner ( <i>Balænoptera musculus</i> )	169	162	331	325
Sei ( <i>B. borealis</i> )	144	117	261	248
Blue ( <i>B. sibbaldi</i> )	31	27	58	19
Northcaper ( <i>Balæna biscayensis</i> )	1	...	1	5
Bottlenose ( <i>Hyperoodon</i> )	2	3	5	...
Humpback ( <i>Megaptera</i> )	1	...	1	2
Killer ( <i>Orcinus orca</i> )	...	1	1	...
Totals	348	310	658	599

Finner and sei whales, both known it will be observed by their Norwegian names, have all along predominated in the catch. An exceptional number of the large Blue whales was taken during the year, most of them measuring over 70 feet in length, and the largest,



a female, attaining 83 feet with a girth of 34 feet. The next largest whale landed was a female finner 83 feet long and 32 feet in girth. The killer shown above is the first returned as landed in Scotland, but as killers are abundant in all seas the fact has little significance. The northcaper, bottlenose and humpback are comparatively rare visitors to Scottish waters.

Particulars of the steamers and men employed in whaling in 1920 as compared with 1914 are as follow :—

Year.	Steamers.	Total Net Tonnage.	Value.	Voyages made.	Men on Steamers.	Men employed ashore. (Maximum Numbers).		
						Total.	British.	Foreign.
1920	9	468	£71,600	381	93	274	213	66
1914	13	550	54,200	412	130	276	164	115

A larger number of British workmen were employed at the whaling factories, but practically all employed afloat were Norwegians. The vessels engaged were in the case of one of the companies of larger size than before the war, averaging about 60 tons net, as against about 40.

The following table shows the quantity and value of the products manufactured from the whales captured in 1920 and 1914 respectively :—

Products.	1920.			1914.		
	Quantity.	Value.	Average Price per Ton.	Quantity.	Value.	Average Price per Ton.
	Tons.	£	£ s.	Tons.	£	£ s.
Oil - - -	2,525	88,358	35 0	2,334	48,748	20 18
Manure - -	1,543	24,581	15 19	1,354	7,668	5 13
Cattle Food -	320	6,400	20 0	263	1,939	7 7
Bonemeal -	300	3,900	13 0	176	608	3 9
Whalebone -	67	8,445	126 1	78	2,587	33 3
		131,684			61,550	

The price of oil dropped heavily during 1920, and owing to the unwillingness of the companies to realise their stocks at the low price then prevailing, the oil produced remained unsold at the end of the year. The value entered above is therefore only an estimated figure. It is doubtful if the season's operations were remunerative to the companies concerned.

## CHAPTER V.

## TRANSPORT AND DISTRIBUTION.

Of all problems confronting the fishing industry that of transport and distribution is one of the most vital, and at the same time one of the most difficult, and this is specially so in the case of Scotland. The principal fishing ports are in the northern section of the country, far removed from the important centres of population and consumption, and the herring ports are served only by single lines; no alternative means of transport is available as in the case of ports which are comparatively close to the industrial areas, and consequently any failure of the railway service seriously affects the Scottish industry.

In the Board's report for the year 1919, reference was made to the transport difficulties experienced during that year, and during the early part of 1920 these difficulties continued.

Numerous complaints were received from various ports around the coasts of Scotland with regard to the inadequacy of the railway facilities for the transport of fish to the southern markets; owing to slow running or delays *en route* the trains were arriving in London or the English provincial towns too late for the early morning market, when the best prices are obtainable, and on many occasions the fish had to be held over until a later market, this delay, which was the more serious at the week-end, resulting in a further depreciation in condition and value. This was specially noticeable with regard to the Aberdeen fish traffic to the south, which is a regular and important feature of the industry, and by the end of March 1920 not only was there a strong feeling of dissatisfaction with the arrangements which had been in operation during the preceding winter, and which were still in force, but serious misgivings were expressed on all sides as to the conditions which might be expected during the summer months, unless material improvement could meantime be introduced.

The position generally at this time was that the fishing fleets had been re-established, in some cases in greater strength even than in pre-war days, and the fishing was being prosecuted with the greatest vigour; the landings were consistently heavy, and the southern markets were largely relied on for their disposal. The railway companies, however, had found it quite impossible to restore even their pre-war services for fish, either by passenger or goods train; they were still suffering from a general shortage of rolling stock, and this applied especially to the class of vehicle suitable for fish transport. At the same time there was a greatly increased volume of general traffic passing over the railway systems; the goods traffic from Scotland to England has been stated authoritatively to have increased by 35 per cent. between 1913 and 1920, and there was undoubtedly a considerable growth in the fish traffic, now mostly carried by passenger train.

Other points represented to the Board with a view to improvement were as follows:—

- (a) The employment of more covered waggons for fish in lieu of open trucks; there were many complaints that, by the latter method, there was an inevitable accumulation of



ashes and dust and the condition of the fish deteriorated considerably, especially in hot weather.

- (b) The provision of refrigerator vans for certain classes of fish traffic.
- (c) A shortage of trucks, especially at times of unexpected landings and on single line systems, where the return of the empty trucks was a difficult matter; the condition of the trucks was also occasionally a cause of complaint.
- (d) The increased number of cases of delay in transit, through the overheating of axles necessitating the removal of waggons from the fish trains.
- (e) The heavy railway rates on fish as compared with those of pre-war days.
- (f) The late return of traders' empty fish boxes.
- (g) The granting of special travelling concessions to fishworkers proceeding to and from the curing centres.

For a considerable time the Board had for the reasons given above felt the growing need for the addition to their staff of an officer whose whole time would be devoted to questions of transport and distribution of fish; and in March 1920 the Treasury approved of the Board's proposal that an Inspector of Fish Distribution should be appointed. Commander L. D. Fisher, D.S.O., R.N. (retd.), was duly selected for the appointment, and since entering on his duties he has investigated all complaints or suggestions with regard to transport or distribution which have been received by the Board or have come to their notice. The railway authorities have been found at all times most willing and ready to assist him wherever possible in removing difficulties and improving the transport facilities, and as the result of the special attention given to the matter the transport arrangements have been greatly improved.

The Inspector attended, on behalf of the Board, a conference held at the Ministry of Food on the 15th June 1920, when representatives of the Government Departments concerned met representatives of the fishing industry and of the railway companies in order to discuss the question of fish transport generally and the possibilities of improvement. A Committee was appointed, representative of the Conference, to go thoroughly into these matters and to report thereon. Commander Fisher represented the Board on this Committee, which held four meetings at the Ministry of Food during the summer and autumn, and considered all general complaints and suggestions brought forward as affecting the whole or large sections of the trade. It was arranged that matters relating to the more remote districts, *e.g.* Scotland, should have first attention, and the representatives of the Government Departments and of the trade presented statements, which were then considered by the railway companies and were met wherever possible. Mr. R. Milne of Aberdeen ably represented the Scottish Fish Trade on this Committee, and his experience and sound judgment proved of value throughout the proceedings. The most important function of the Committee was the consideration of complaints relating to the train services provided for the carriage of fish, and it was in this direction that it was able to achieve the most satisfactory results. After their fourth meeting, on the 5th

November, the Committee, having disposed of all matters then outstanding, delegated further responsibilities to a Standing Sub-Committee consisting of the four representatives of the Government Departments (*viz.*, Ministry of Food, Ministry of Agriculture and Fisheries, Ministry of Transport and Fishery Board for Scotland), with instructions to consider questions arising and, if necessary, convene a full Committee meeting.

The position at the end of 1920 was that there had been a considerable all-round improvement in the railway facilities for fish from Scotland to the English markets, and arrangements had been made so far as possible to ensure the arrival of the special fish trains in time for the opening of the morning markets. For instance, the Aberdeen daily fish trains, 1.30 p.m. by the West Coast route and 1.45 p.m. by the East Coast route, were scheduled to arrive in London respectively at 3.30 a.m. (Broad Street) and 3.35 a.m. (King's Cross), in time, therefore, for the opening of Billingsgate Market; whereas in the first few months of the year the Aberdeen fish train leaving at 1.30 p.m. travelled *via* Carlisle and the Midland Railway and was not due in London (St. Pancras) until 6.32 a.m., and it was found that the fish, which at the best could not be delivered at Billingsgate until the morning market was well advanced, had frequently to be held over until the following day. The provincial towns in England also benefited from the speeding up of the Aberdeen daily fish trains by an earlier delivery of the fish at their morning markets, and at the same time many other Scottish ports were able, owing to their geographical position, to take advantage of these special facilities from Aberdeen to the South.

During the year under review, several complaints as affecting fishery interests have been referred to the Board from ports in the Outer Islands and Western Highlands regarding the delay of the steamers on the West Coast services or their inability at times to carry out their full programme; suggestions have also been received proposing various alterations or additions to the services. In each instance the facts have been investigated by the Inspector, and where necessary representation has been made to the responsible authorities. It is at all times a serious problem for the smaller fishing communities on the West Coast and the Islands to get their catch to market, and owing to various circumstances the steamer services on the West Coast are always run under great difficulties, while the local transport arrangements are often inadequate, and in many cases the fish traffic is uncertain and not of any considerable volume. Improvement of the facilities for transport of fish in this area is largely dependent on the improvement of the transport generally, and the question has been receiving the consideration of the several Government Departments concerned. It is hoped that increased trade will lead to the provision of additional facilities, to the benefit especially of these smaller fishing ports which rely exclusively on the steamer service for the transport of their fish to the railheads for dispatch to the southern markets.

The steamship communications in the Orkneys and Shetlands have also received the consideration of the Board, who in general were able to support the recommendations of the Rural Transport (Scotland) Committee.



In July 1920 a Standing Conference, consisting of representatives of the Board of Agriculture for Scotland, the Fishery Board for Scotland, the Scottish Board of Health, the Board of Trade and the Scottish Office, was constituted for the purpose of considering all proposals for new or improved inland transport facilities in Scotland. The Board nominated the Inspector of Fish Distribution as their representative, and several meetings of the Conference were held during 1920, their reports on the various schemes considered by them being submitted to the Scottish Office to be brought before the Development (Scotland) Committee, by whom the schemes were considered before submission to the Ministry of Transport. The activities of this Committee will be recorded elsewhere, and it suffices here to say that many proposals affecting fishery interests have been involved, and that in these cases the fishery point of view has received the fullest consideration.

While the attention of the Inspector during 1920 has been mainly directed to securing improvements of the transport services, the question of extending the retail distribution of fish has also been under consideration.

Particulars of the quantity of herrings and other fish placed on the home markets are given in previous chapters of this Report, but it may here be noted that of the Scottish herring catch the quantity consumed at home in 1920 was more than double the corresponding quantity in 1913, a result directly traceable to the efforts made during the war to increase the home consumption of this fish, while the quantity of other kinds of fish used in the United Kingdom, either fresh or smoked, also shows an improvement as compared with 1913.

Retail distribution has not, however, been able to cope with the increased supplies of fish available, and it is clear that in the interests of both fishermen and consumer the means of distribution should not only be fully re-established, but should be materially improved and increased as compared with pre-war years. This is primarily a matter for the wholesale and retail traders, but it appears that there is scope not only for Government but for municipal action.

In the latter part of the year enquiries were instituted with a view to obtaining particulars as to the existing facilities for retail distribution, and through the courtesy of Town Clerks much valuable information was received as to the numbers of fishmongers, fried fish shops, etc., in the more important Scottish towns. The information obtained was under consideration at the close of the year.

While the increased distribution of fish will doubtless depend principally on the enterprise displayed by local fishmongers, there is ample scope for other branches of the trade. An extension of the "small parcel" system and additions to the number of hawkers and of fish frying establishments would all materially help in extending consumption. The fish frying trade in this country is already much more extensive than is generally known, it being estimated that there are some 25,000 of such shops at work and consuming 4,000 tons of fish per week, but the limits of expansion have by no means been reached.

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## CHAPTER VI.

## DEVELOPMENT.

## OVERSEAS MARKETS.

With a view to eliciting information which might lead to an extension of the market for Scottish cured herrings, the Board, as stated in their last Report, prepared a questionnaire which through the good offices of the Department of Overseas Trade was put before the representatives of that Department in the principal countries in the South of Europe, in Asia, in Africa, and in North and South America.

This step was primarily dictated by the urgent necessity for finding new outlets for pickled herrings as an alternative to the Continental markets, which were formerly the mainstay of the trade, but with which it is now difficult to do business owing to the unsettled condition of their finances and internal economy.

In all 37 reports were obtained, and they were made available as received to individuals and firms of British nationality through the agency of the Board's officers.

Unfortunately the majority of the reports were not of a very encouraging nature, but fair prospects of developing trade were stated to exist in the following places:—

<i>Europe</i>	-	-	Salonika, Bulgaria.
<i>Asia</i>	-	-	Shanghai, Dairen.
<i>Africa</i>	-	-	Egypt.
<i>North America</i>	-		Ontario and Quebec and Western Canada.
<i>West Indies</i>	-		Trinidad and Barbados.
<i>South America</i>	-		British Guiana.

Although an exploration of the possible markets for cured white fish was not such a clamant necessity as in the case of cured herrings, a similar series of reports, collected from a variety of sources, was obtained dealing with market conditions in countries which consume dried salted cod and other white fish, and these reports, 12 in number, were also issued to the Board's officers for reference by those interested.

The world's markets for dried salted fish were flooded by stocks from Norway and Newfoundland, and in consequence the only countries offering fair prospects for British stocks were Spain, Brazil and Argentina, in which countries a demand exists for the best quality of cure.

The disorganised state of the international exchanges and the high transport charges current unfortunately made it difficult for any immediate advantage to be taken of the opportunities indicated in the reports, but the information will prove useful as soon as the establishment of new trade relations becomes practicable.

## DISPOSAL OF ADMIRALTY DRIFTERS TO EX-SERVICE FISHERMEN.

As finally sanctioned by H.M. Treasury, the scheme for the disposal of surplus Admiralty drifters to ex-service fishermen, the



inception of which was described in the last report, provided for the purchase of the vessels on the instalment system, the purchase price being regarded as a loan repayable by 24 half-yearly instalments, plus interest at the rate of 5 per cent. per annum on the amount of principal outstanding, and each loan being secured by a first mortgage over the vessel.

The total number of vessels allocated to the Board for the purposes of the scheme was 83, but for various reasons a number were either not accepted or were returned to the Admiralty, and the number actually taken over by the Board was 75, of which 41 were steel and the remainder wood.

The basic prices fixed for these vessels were as follow :—£6500 for new and £6000 for re-conditioned steel vessels, plus £500 in each case if equipped for trawling, and £5000 for new and £4500 for re-conditioned wooden vessels.

The number of vessels which had been disposed of up to the end of 1920 was 49, of which 3 had been sold outright, and, including the amount received for the latter, a sum of £35,768 had been received by way of initial cash contributions.

In view of the depressed condition of the fishing industry during the year, it is not surprising that a number of purchasers were unable to meet the instalments of principal and interest which fell due on December last. Seventeen, however were paid in full, 6 made partial payments, and 16 were unable to make any payments. The total sum repaid amounted to £6458, of which £3919 represented principal and £2539 interest.

It is regrettable that in so many cases the enterprise displayed by the purchasers in acquiring vessels under the scheme should have met with so poor a return, but the conditions obtaining since the scheme was inaugurated could hardly have been less propitious, and the Board feel confident that when the present period of depression has passed and fishing operations are again remunerative, the arrears will be wiped out.

#### LOANS TO FISHERMEN FOR THE PURCHASE OF MOTOR FISHING BOATS AND THE INSTALLATION OF MOTOR ENGINES INTO EXISTING SAILING BOATS.

In our last annual report an account was given of the progress which had been made in connection with a scheme of loans to ex-service fishermen for the purchase of motor fishing boats. It will be remembered that the Board had been successful in obtaining an advance from the Development Fund for the purpose, but that the stipulations laid down by the Development Commissioners as a condition of the advance had in practice proved too rigid, and that representations had been made with a view to their relaxation.

These representations were successful, and under the revised scheme the Board were empowered to grant loans

1. to enable fishermen to acquire new motor boats built according to approved specifications arranged between them and boat builders;

2. to enable fishermen to instal motor engines in existing sailing boats; and
3. to enable fishermen to purchase efficient second-hand motor boats, on the understanding that loans for this purpose would be made only in exceptional circumstances.

It was, however, stipulated that the fishermen should be required themselves to contribute a substantial proportion of the cost of the boats.

Notwithstanding the concessions made, the applications for loans have been much less numerous than was anticipated. The condition of the industry, and particularly the high prices of boats, engines and gear, have deterred ex-service fishermen, for whose benefit the scheme was chiefly designed, from undertaking the obligations involved, while the majority of the applicants have been unable to comply with the requirement that they must themselves contribute part of the cost of the boat or engine they desire to acquire.

In four cases loans amounting in all to £1095 have been actually advanced over boats and engines costing £1418. In four other cases loans amounting to £782 over boats and engines to cost £1157 have been negotiated.

#### GRANTS FOR CIVIL LIABILITIES.

As mentioned in the Board's last report, the administration of the scheme of Government grants to enable ex-service men to resume their civil occupation is entrusted to the Military Service (Civil Liabilities) Department, but by an arrangement made at the request of that Department all claims for compensation lodged by Scottish fishermen are referred to the Board, and a recommendation in each case is made by them after investigation by their local Officer.

Early in the year the Board also undertook the responsibility of ensuring, again through their local Officers, that the amounts granted were expended to the best advantage in equipping the grantees for fishing. Up to the end of 1920, 1438 applications had been referred to the Board for investigation, and grants had been made in 688 of those cases amounting in all to £20,700.

#### OYSTER FISHERY DEVELOPMENT.

The resuscitation of the Scottish oyster fisheries was one of the problems which the Board had under consideration immediately prior to, but which had to be deferred on account of the outbreak of war. These fisheries were at one time perhaps the most important in Europe, furnishing supplies not only for local needs, but also for export to England and Holland. Now, with the exception of that in Loch Ryan, they are either moribund or extinct, a state of matters which is due in a great measure to reckless over-fishing and absence of regulation.

Attempts have been made from time to time to revive the Scottish oyster fisheries, but these have been uniformly unsuccessful, owing to the fact that the operations, often ill judged, have been conducted on too small a scale, and with an insufficient expenditure of capital and energy. But provided operations are conducted on an adequate scale, backed by expert knowledge, the Board are sanguine



that the Scottish oyster fisheries may be restored to their former prosperity.

The Board are fortunate in having on their staff, in the person of Mr. W. L. Calderwood, their Inspector of Salmon Fisheries, an expert in ostraculture, and he was accordingly instructed to prepare a scheme having for its object the resuscitation of the oyster fisheries. Careful enquiry and consideration was given to the matter, and the scheme as finally approved was submitted in the course of the year under review to the Development Commissioners with a view to obtaining a grant from their funds for the purpose of putting it into operation.

It is unnecessary to describe the scheme at length, but, very briefly, it provides for the reservation of suitable areas as a central reserve where the best methods of culture will be perfected and demonstrated, and a stock of oysters accumulated; and the ultimate farming out of approved areas, which will be stocked from the central reserve, and cultivated under regulations and conditions to be laid down by the Board.

The Development Commissioners were favourably impressed by the scheme, and as a preliminary measure sanctioned a grant to enable a survey of the West Coast lochs to be made with a view to assessing their suitability for the various processes involved in oyster rearing. This survey was carried out by Mr. Calderwood, who also paid a visit to France in order to study the methods employed in the important oyster fisheries of that country. In the result two sites were selected, for breeding and relaying purposes respectively, and negotiations opened with the proprietors for their acquisition, and the Development Commissioners provided funds for relaying experiments and for the purchase of a sailing vessel with auxiliary motor power, such a vessel being essential for carrying on the dredging, transplantation and other work involved in oyster culture.

The Board were successful in securing the co-operation of the proprietors of the site selected for relaying, but difficulties arose in connection with that selected for breeding purposes, which threatened to be insurmountable. At this stage, however, the Board's attention was drawn to some remarkable results which had been obtained in experimental oyster breeding under artificial conditions at the mussel purification tanks situated at Conway. These results, there is every reason to believe, demonstrate that the causes which had led to the failure of previous attempts to breed oysters under control in closed ponds have been eliminated, and Mr. Calderwood, who made an exhaustive inquiry into the matter, strongly recommended the adoption of the Conway system in preference to breeding in tidal water. The negotiations for the acquisition of the site which had been selected for breeding purposes in Scotland were accordingly dropped, and as considerations of economy precluded the erection of similar tanks in Scotland, it was finally arranged that the brood for the purposes of the Board's scheme should be obtained from Conway. Brood from this source will not, however, be available for a considerable time, and the Development Commissioners have therefore provided funds for the purchase of brood from abroad until a supply from Conway is obtainable.

Now that the initial difficulties have been surmounted, it is hoped

that substantial progress will be made with the scheme during the current year.

#### LOBSTER FISHERY DEVELOPMENT.

The development of the lobster fishery, which in Scotland is carried on chiefly on the West Coast and is now showing symptoms of decline, is another matter which the Board have had under consideration for some years. On the economic side there is ample scope for developing this important fishery by increasing the facilities for storage and improving the methods of packing for market, while on the scientific side lacunæ in our knowledge of the life history of the lobster and the conditions which influence its reproduction and development—knowledge which is necessary before any measures of a regulative kind can be taken—require to be filled up.

Proposals to this end were therefore formulated and submitted to the Development Commissioners, whose approval they received, and by means of a grant provided from the Development Fund, the Board were enabled during the year under review to begin an investigation into the lobster fishery.

The practical side of the investigations, which will, it is hoped, materially add to our knowledge of the life-history of the lobster, and will enable sound measures of conservation to be taken, was placed in the hands of Lieutenant-Commander J. W. M'Murtrie, D.S.O., who had previously had a long experience as manager in charge of the well known lobster pond at Cullipool, near Oban. The scientific portion of the investigations is being undertaken by the Board's regular scientific staff.

#### USE OF AIRCRAFT FOR LOCATING FISH SHOALS.

In various parts of the world, but notably on the Atlantic and Pacific sea-boards of the United States of America, experiments have recently been made as to the utility of aircraft in detecting shoals of fish. These experiments are reported to have clearly demonstrated the practicability of using aircraft for this purpose, and it is understood that American fishermen have already received material assistance in this way.

It is possible that the physical conditions obtaining off the Scottish coast may not be so suitable as in American waters, but the innovation contains obvious possibilities for Scottish fishermen, and the Board accordingly approached the Air Ministry with a view to putting the matter to a practical test during the summer of 1921 by combining a search for shoals with the ordinary operational exercises of aircraft.

The proposal was sympathetically received by the Air Ministry, and the Board hope to be in a position to give the results of the experiment in their next annual report.

#### WIRELESS COMMUNICATION FOR FISHING VESSELS.

The Board have kept under close observation the development of wireless communication as applied to ships. The advantages of



such communication in the case of fishing vessels are obvious, but unfortunately the cost of the apparatus and its operation, together with the limited space and accommodation available on board most fishing craft, have prevented any general adoption by fishing vessels of wireless equipment. So far as the Board are aware, no Scottish fishing vessel is fitted with wireless, though it is understood that the system has been adopted by some of the larger English trawlers and by a few foreign fishing vessels.

The difficulties in the way of the extension of wireless communication to fishing vessels have a parallel in the case of outlying islands and lightships. The Board have been in communication with the Postmaster-General, and understand that the problem is receiving the special attention of his technical advisers, and that there is a hope of its solution at any rate so far as short distance communication is concerned. The matter will continue to receive the consideration of the Board.

#### PATENT SPECIFICATIONS.

Copies of all British patent specifications relating to the fishing industry were obtained during the year, and of these a classified index is being prepared, which when completed will be made available for consultation by members of the industry. The specifications embrace a wide variety of objects, such as fishing vessels and gear, new ideas in fishing apparatus, fish cleaning machinery, methods for preservation of fish, packages for transport, etc.

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## CHAPTER VII.

### MARINE SUPERINTENDENCE.

The superintendence of the sea fisheries of Scotland during 1920 was carried out chiefly by the five Fishery Cruisers belonging to the Board. The services of Naval vessels also again became available, and H.M. Sloop "Lupin" carried out superintendence in the Moray Firth and Shetland waters from April to November 1920, being assisted for part of the time by H.M. Trawler "Thomas Jarvis."

In November, despite the Board's strong protest, the "Lupin" was withdrawn owing to the urgent need for economy in personnel, and thereafter the Board had the assistance only of the trawler "Thomas Jarvis" (re-named the "Exe"), which is a much slower and less suitable vessel. The Board regret this weakening of the fishery patrol service at a time when, owing to the resumption of fishing operations on an extensive scale, particularly by foreign trawlers in the Moray Firth, there was the greater need for efficient surveillance.

The Board's Fishery Cruisers were employed throughout the year on the stations best suited to their seagoing capabilities. The "Norna" was employed mostly on the North Coast and in Orkney and Shetland waters, the "Freya" in the Moray Firth and on the Aberdeenshire coast, the "Minna" on the West Coast, including the

Hebrides, the "Brenda" on the East Coast and Firth of Forth, and the "Vigilant" in the Clyde area.

In October it was unfortunately found necessary to withdraw the "Brenda" on account of the complete failure of her boiler after twenty-two years' constant use. Arrangements for the supply of a new boiler were immediately put in hand, and to fill the gap the drifter "Maelstrom" was fitted out for patrol duty and was manned by the officers and crew of the "Brenda." She was employed on the East Coast and the Firth of Forth. Extensive overhauls were also necessary to the "Freya," "Minna" and "Vigilant." The cost of reconditioning was heavy, charges generally being from two to three times higher than in pre-war years.

The principal function of the fishery cruisers is the prevention, rather than the detection, of contraventions of the law, and in the fulfilment of this function the cruisers steamed over 53,472 knots on patrol duty in the course of the year. Thirty-eight detections were made by them of vessels engaged in illegal fishing, while numerous breaches of the lettering, numbering and lighting regulations were dealt with, and investigations were made and reports furnished on various matters. The following summary gives details of some of the work carried out by the various cruisers during the year.

PARTICULARS.	"Norna."	"Freya."	"Minna."	"Brenda" or "Mael- strom."	"Vigilant."
Number of days at sea -	203	219	171	163	187
Number of knots steamed	15,872	11,053	9,283	9,402	7,862
Detections of illegal trawling - - -	4	2	2	14	7
Detections of illegal fish- ing other than trawling	...	2	...	6	1
Boats detained for marking - - -	53	65	49	66	85
Boats cautioned for lighting - - -	...	3	...	4	85
Foreign trawlers observed	7	10	...	4	...
Number of occasions seen	13	14	...	2	...

In addition to the detections effected by the Board's cruisers, the Admiralty vessel detected 3 cases, coastguardsmen 20, and fishermen and other private individuals 16. A satisfactory feature is the number of convictions which have been secured through the efforts of fishermen, frequently at inconvenience and risk to themselves.

Illegal fishing was most prevalent off the East Coast, where there were 39 detections in all during the year. Next in order came the Firth of Clyde area with 17, followed by Moray Firth with 12, West Coast with 5 and North Coast with 4. The detections off the East Coast included numerous cases of seine-net fishing in St. Andrews and Carnoustie Bays.

The calls upon the sea fishery police service were for two reasons heavier during 1920 than ever before. In the first place, the introduction of a smaller class of steam trawler, for which at present there is a great demand on account of their low running costs



compared with the costs of larger deep sea trawlers, has led to an increase of trawling in inshore waters and other prohibited areas, especially in bad weather. The second reason is the great increase in the use of the otter trawl by small motor fishing boats in shallow inshore waters all round the coast, and especially on the East Coast and in Luce Bay and the Clyde area. It has been the earnest endeavour of the Board to suppress these illegal practices, and so far as the resources at their disposal have permitted, they feel justified in claiming that their efforts have been attended generally with success. Nevertheless in certain areas the detection of offenders, especially those using small motor boats, has become a matter of considerable difficulty, and the Board are considering whether further measures can be taken to ensure the due observance of the law. They are, however, greatly hampered by financial considerations, and it is with the utmost difficulty that the existing fleet can be maintained.

#### PROSECUTIONS FOR ILLEGAL TRAWLING.

During the year 38 prosecutions were instituted for illegal trawling (including seine flounder net fishing) round the Scottish coasts. In 32 cases convictions were obtained. In 4 cases verdicts of "Not Proven" were given, 1 case was dropped, and in the remaining case the diet was deserted *simpliciter* as there was only one witness. No prosecutions of skippers of foreign vessels took place.

The fines imposed in the 32 cases of convictions amounted in the aggregate to the sum of £1070; all the fines were paid, none of the accused accepting the alternative of imprisonment. The fines imposed ranged from £10 to £75, with an average of £33 for each conviction.

#### PROSECUTIONS FOR OTHER OFFENCES.

Prosecutions of masters of fishing vessels for offences other than illegal trawling numbered 8, and in all cases convictions were secured. Seven of the offences, 6 of which were committed in conjunction with illegal trawling, related to the concealment of distinguishing letters and numbers, the failure to exhibit the regulation lights to be shown when trawling by night, and refusal to comply with the orders of a Sea Fishery Officer. The fines imposed in the above cases ranged from £5 to £20. The remaining case was a breach of the weekly close time for herring fishing, in which instance a fine of 10s. was imposed.

#### TRAWLING IN PROHIBITED AREAS PREVENTION ACT, 1909.

The above Act, which was passed with a view to excluding foreign trawlers from working in waters *intra fauces* of Scotland, extended to the whole of the United Kingdom those provisions of the Herring Fishery (Scotland) Act, 1889, which rendered illegal the landing or selling in Scotland of any fish taken by trawlers in prohibited areas. The administration of the Act is vested conjointly in the Board and the Customs authorities.

The Moray Firth is the largest and most important area coming

within the operation of the Act, and the following table gives (1) particulars of the number of different foreign trawlers reported as having been observed working in the Firth, and (2) the number of separate occasions on which those trawlers were observed, for the thirteen years ending 19th October last :—

NATIONALITY OF TRAWLERS.	BEFORE ACT IN OPERATION.				AFTER ACT IN OPERATION.															
	1907-8.		1908-9.		1909-10.		1910-11.		1911-12.		1912-13.		1913-14.		1918-19.		1919-20.			
	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.	Trawlers.	Occasions.
Norwegian - - -	16	171	13	112	7	103	8	141	7	84	6	112	6	87	..	..	..	..	..	..
Swedish - - -	1	3	..	..	1	1	1	8	3	28	2	7	..	..	..	..	..	..	..	..
Danish - - -	8	25	16	99	9	60	1	10	2	14	4	47	5	44	..	..	..	..	..	..
Total Scandinavian -	25	199	29	211	17	164	10	159	17	126	12	166	11	131	..	..	..	..	..	..
German - - -	1	2	1	1	5	12	16	33	23	55	15	21	15	27	..	..	1	1	1	1
Dutch - - -	2	2	6	8	7	15	11	15	10	24	13	29	21	58	..	..	5	7	5	7
Belgian - - -	8	27	10	19	9	26	3	6	5	18	6	16	15	58	1	1	9	21	9	21
Total -	11	31	17	28	21	53	30	54	43	97	34	66	51	143	1	1	15	29	15	29
Grand Total -	36	230	46	239	38	217	40	213	60	223	46	232	62	274	1	1	15	29	15	29

War operations effectively closed the Firth to foreign trawlers, and it was not until some time after the termination of hostilities that the first foreign vessel appeared, this being a Belgian trawler, which was observed in September 1919. During 1920 foreign trawlers commenced to reappear with greater frequency, but it may be noted that the pseudo-Scandinavian element, against which the Act of 1909 was principally aimed, is no longer present. These Scandinavian vessels worked all the year round, but the Belgian and Dutch vessels practically confine their operations to the limited period during which the cod shoals are present.

The Firth of Clyde is the only other closed area in Scottish waters which has been frequented by foreign trawlers, and trawling there practically ceased with the passing of the Act. No foreign trawlers were observed at work in the Firth of Clyde during the period.

Fish landed in the United Kingdom in contravention of the Act is liable to confiscation by the Customs Authorities, but only four such cases have come under the notice of the Board since the passing of the Act.

#### ENQUIRIES INTO COMPLAINTS OF DAMAGE TO BOATS OR GEAR.

Complaints by fishermen of damage to their boats or gear by other fishing vessels, investigated by the Board's fishery officers during the year, numbered 22, representing a decrease of 14 as compared with the figures for 1914, the last year in which the information was published. In 10 of the cases dealt with, the officers succeeded in arranging matters amicably, with the result that a total of £86, 10s. was recovered as compensation for damage caused. In the remainder of the cases, with the exception of 2, which have



still to be settled, no compensation was secured by the complainers owing to the evidence available being insufficient to admit of further proceedings being taken. In all but one instance the complaints originated outside territorial waters, and consisted, for the most part, of damage to line fishing gear, steam trawlers being the greatest offenders.

In addition to the foregoing, several cases of damage to the gear of fishing vessels by H.M. ships were investigated during 1920 by the Board's officers. The claims were transmitted to the Admiralty, who in seven cases awarded compensation amounting in the aggregate to the sum of £323, 7s. 6d.

During the cod net fishing season in the Moray Firth a considerable amount of trouble was experienced through the operations of foreign trawlers in the Firth, and the consequent damage to the cod net fishing gear of the local fishermen. Eight specific complaints of such damage were reported to the Board, and in other cases gear was reported to have been lost, but no evidence was forthcoming as to the identity of the offenders, although it was believed that foreign trawlers were responsible.

The practice of the local fishermen of leaving the nets unattended during darkness, and their failure to comply fully with the Regulations issued by the Board in January 1914 for the Marking and Lighting of Anchored Cod Nets, render it impossible to prove wilful damage, and it is thus difficult to obtain redress.

In particular cases where evidence was available as to the identity of the trawler alleged to have caused the damage, the Board endeavoured to obtain compensation for the fishermen, but without success, as the claims could not be legally enforced except by recourse to proceedings in foreign courts.

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## CHAPTER VIII.

### MISCELLANEOUS.

#### FISHING BOAT INSURANCE.

Although, on the whole, excellent facilities for the insurance of the larger fishing vessels are provided by the various fishing boat insurance companies, the same could not until very recently be said of the small and medium-sized motor boats, which now constitute so large a proportion of the Scottish fishing fleet, and during the course of the year the question of providing better facilities for the insurance of such vessels was taken up. Certain of the Scottish companies, it is true, offered favourable terms for the insurance of such craft, provided they were under £500 in value and did not exceed 50 feet in length of keel; but owing to the great appreciation in money values during the war, the majority of the boats to which these terms were evidently intended to apply could no longer take advantage of them, and were either insured at higher

rates calculated to cover the risks run by the largest class of motor boats, or were not covered at all.

After exhaustive enquiry as to the exact needs in Scotland, the Board therefore drew up a scheme of State Insurance applicable in the first instance to all motor and sailing boats, on lines similar to that already in operation in England and Wales. The approval of the Treasury to the proposed scheme was obtained, but before arrangements were completed certain Scottish companies revised their rules so as to make their most favourable terms applicable to all motor boats up to 50 feet in length of keel, irrespective of value. As these terms were practically as advantageous as could be offered by the Board, the object in view was attained and further action was suspended, but should the necessity arise the scheme will be revived.

#### BYE-PRODUCTS.

There are in Scotland some 24 factories engaged in the manufacture of bye-products from fish offal. These are situated at Aberdeen, at the chief herring fishing ports, and in the neighbourhood of Glasgow and Edinburgh; the Aberdeen factories treat principally white fish heads, bones, guts, etc., livers and unmarketable fish obtained from curing establishments, fish merchants, or fishing vessels; those in the South deal chiefly with waste from the fishmongers' shops or the local fish markets; and the others deal almost exclusively with herring offal obtained from pickling and kippering establishments. Most of the factories are owned by combinations of curers or other persons engaged in the fishing industry.

The quantity of raw material dealt with last year was nearly 60,000 tons, but owing to the light herring fishing and a consequent shortage in supplies, the factories did not work up to their full capacity.

The products consisted of approximately 3700 tons of fish meal, all or nearly all made from white fish, 7300 tons of dry manure, and 3000 tons, or about 750,000 gallons, of oil, including over 100 tons, or 25,000 gallons, of oil of medicinal quality. Fish glue is also manufactured by at least one firm. The meal is used as a feeding stuff, and is disposed of chiefly in the home market, although a large quantity was exported to America and Japan during the year. These countries also absorbed a large proportion of the manure produced (although, in so far as Japan was concerned, the demand was only temporary, and was said to be due to the failure of the Japanese herring fishing), while large quantities were also disposed of in England. The oil is used in the manufacture of the cheaper grades of soap, in the treatment of leather and in steel manufacture, but during the year prices fell off and stocks were being held in the hope of an improvement. The fall was a result of the general depression which set in, but was accentuated by the realising of stocks by Norway and Japan at whatever prices could be obtained. The prices of the other products also decreased, and the financial results for the year were therefore disappointing, and as a consequence several extension schemes were held up.

A method of extracting oil, in which benzine is employed as a



solvent, is beginning to replace the older method of expressing the oil mechanically, and is said to give a much higher yield.

#### THE COAL STRIKE AND THE FISHING INDUSTRY.

The fishing industry, in common with most other industries, was immediately affected by the coal strike which occurred in the latter part of the year, and as the strike was general throughout the country, steps had at once to be taken to regulate supplies on a national basis. In allotting supplies the first consideration was naturally given to essential industries, in which fishing as a food-producing industry was included. The regulation of supplies was carried out by a Committee in London appointed by the Coal Mines Department, and supplies for the fishing fleet were arranged for by a Sub-Committee of that Committee, on which the Board, as the custodian of Scottish fishery interests, was represented. Fortunately in so far as Scotland was concerned, only the trawling and line-fishing ports were affected, the herring fishing season having terminated, and the situation was therefore less difficult than it otherwise would have been.

The first step taken by the Board was to obtain and transmit to the Sub-Committee full information as to the coal requirements of the fishing fleets at the various ports and of the stocks available. After reviewing the position the Sub-Committee decided that the available stocks permitted the supply to fishing vessels of 50 per cent. of their normal requirements, and steps were taken to ration supplies on this basis. This was effected through the medium of local committees which were set up at the fishing ports, and on which the Board were represented by their fishery officers, whose intimate knowledge of local conditions was of great service.

Daily returns of the quantities put on board the fishing vessels and of the stocks remaining on hand were transmitted by the fishery officers to the Board's representative (Commander Fisher) in London, and with this information before them the Shipping Sub-Committee were enabled to keep the whole position constantly under review, with the result that the arrangements worked without a hitch. Supplies of coal were forwarded to the various ports as and when required, and fishing operations proceeded without interruption on the modified scale rendered necessary by the 50 per cent reduction.

#### PREVENTION OF DAMAGE BY TRAWLERS TO SUBMARINE CABLES.

In pursuance of the arrangements made in 1913 for the prevention of damage by trawlers to submarine cables, the inspection of trawl gear at the principal trawling ports, Aberdeen, Granton and Dundee, was duly carried out by the Board's officers. The officers were given every facility in their rounds of inspection, and in every case the defects discovered, which were relatively few in number and were usually of a trivial nature, were remedied before the vessels left for sea.

The following statement shows the number of inspections of the trawl gear of Scottish and English trawlers during 1920. No gear on foreign trawlers was inspected during the year.

Port.	No. of Inspections.		Cases in which gear found defective.	
	Scottish.	English.	Scottish.	English.
Aberdeen - - -	4,135	78	286	1
Granton - - -	715	...	20	...
Dundee - - -	59	...	1	...

During the year 93 new sets of trawl boards were noted as having been fitted in substitution for those considered to involve risk of danger to cables.

No case of damage to a cable attributable to Scottish trawlers came under the Board's notice during the year.

#### GEAR ARBITRATION.

In the case of many of the Scottish herring fishing vessels requisitioned for war services the fishing gear on board was also taken over by the Admiralty. Depreciation and loss resulted in numerous instances, and claims for compensation were lodged by the owners with the Admiralty. Difficulty was experienced in connection with certain of the claims in reaching settlements satisfactory to both parties, and, as recourse to legal proceedings was much to be deprecated, it was decided to resort to arbitration, and at the request of the claimants and the Admiralty the Chairman of the Board consented to act as sole arbiter in the matter.

In all 206 claims were referred for arbitration, and the assessments amounted in the aggregate to the sum of £29,262, 10s. 8d., or after adding interest allowed under the awards, £2845, 8s. 7d.,—a grand total of £32,107, 19s. 3d. The arbiter's assessments in all cases were accepted by both parties, and it is satisfactory to record that by this means prolonged and expensive litigation was avoided.

#### TELEGRAPH AND TELEPHONE SERVICES IN THE HIGHLANDS AND ISLANDS.

In view of the importance of the fisheries in the Highlands and Islands, the Board are closely interested in and are frequently consulted regarding schemes affecting the Highlands and Islands. Apart from questions of transport and communications elsewhere referred to in this Report, the Board have taken part in conferences of the various Government Departments concerned, which, commencing in January 1920, were held during the year at the instance of the Highlands and Islands (Medical Service) Board (now merged in the Scottish Board of Health) to arrange as far as possible for the retention of certain telegraph and telephone lines erected by the General Post Office during the war for naval and military purposes in the Highlands and Islands. At these conferences the needs of the fishing industry in respect of facilities for intercourse and communication, especially in the more remote districts, were kept constantly in view.



The chief difficulty in connection with the retention of many of the telegraph and telephone lines in question was that of expense, but in certain cases this difficulty has been overcome by the aid of grants by the Board of Health and the Board of Agriculture for Scotland.

#### OBSTRUCTIONS TO FISHING OPERATIONS.

The year 1920 saw the removal of practically all the obstructions which, through the exigencies of war, hindered fishing operations in Scottish waters. These waters are now clear of mines, and obstructions remain only in some of the approaches to Scapa Flow, concerning which the Board, who fully appreciate the desirability of free and unimpeded access to all waters, have been in communication with the Admiralty.

#### RARE FISH LANDED AT ABERDEEN.

Besides recording the landings of the species of fish enumerated in Table B., No. II., appended to this Report, the Board's officials at Aberdeen collect, for the information of the scientific staff, particulars of any rare or unusual fishes included in the catches of vessels working from the port, details of which may be interesting. Bream, of which 801 cwts., valued at £169, were landed at Aberdeen last year, all in the months from July to December, figure most prominently in these returns. Of the true or black sole, which is comparatively abundant in English waters, only 245 individuals, apart from an exceptional shot of  $3\frac{1}{4}$  cwts. secured in English waters, were noted. The sturgeons landed numbered 7, taken singly at widely separate points off the east, north and west coasts. Of the true John Dory (not the cat-fish which has become popular under that name), 107 individuals were taken. Other kinds noted included lump suckers (13), angel fish (2), wrasse (15), king fish (13), chimæra (7), top knot (4), bib (1 cwt.), and sunfish (2), and single specimens of each of the following, viz., Iceland angler, tunny, black bass and weaver.

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## CHAPTER IX.

### HARBOURS.

#### IMPROVEMENT SCHEMES.

In previous Reports emphasis has been laid on the necessity for the provision of adequate harbour accommodation for the fishing fleet. The development of the industry, the increase in the size of the vessels employed, and the rapid transition from sail boats to steam and motor vessels rendered many of the fishery harbours practically obsolete, and as a consequence the fishermen at such harbours were seriously handicapped in the prosecution of their calling. The local harbour authorities were fully alive to the necessity for extension, but most of the communities were small, and they found it difficult to meet the heavy expenditure involved.

For many years the Board have had at their disposal an annual

grant of £3000 for the improvement of fishery harbours, and many of the smaller harbours round the coast have benefited from the administration of this grant. The grant was, however, totally inadequate for the general reconstruction of harbours rendered necessary by the circumstances referred to above, and it was not until the institution of the Development Fund in 1909 that means were available to enable the situation to be faced.

Up to the end of 1914 grants and loans from the Development Fund amounting in all to £202,050, as detailed in the Report for that year, had been sanctioned for improvement schemes, and several of the works had been commenced. The conditions during the war naturally retarded progress, and, further, had the effect of deferring the commencement of several of the schemes, but the improvements at Berwick, Stonehaven, Cullen, Lerwick and Ullapool have been completed. The new basins at Buckie were opened in February 1917, and the deepening of the entrance channel was practically completed at the end of 1920, while the extension at Macduff was then almost ready for use. Owing to the great increase in costs and other difficulties caused by the war, work on the improvements at Eyemouth, Fraserburgh and Gardenstown, and on the new boat shelter at Lossiemouth, was suspended at different periods and has not yet been resumed. The repairs scheme at Wick, which was sanctioned in 1915, is still in progress. As regards Whitehall, Stronsay, only the dredging was carried out, the estimated cost of the extension of the piers proving to be in excess of the funds available.

The only advance from the Development Fund sanctioned in 1920 was a loan of £7200 to the Eyemouth Harbour Trust in aid of a scheme for the removal of accumulated silt from the harbour, but several applications for assistance from the Fund, involving schemes of the utmost importance, were under consideration during the year. Owing to the great increase of costs, the Town Councils of Buckie and Macduff, the Wick Harbour Trustees and the Lossiemouth Boat Shelter Commissioners had found it necessary to apply for additional assistance to enable the schemes in hand to be completed. Eyemouth Harbour Trustees had submitted a scheme for the construction of a deep water basin, Peterhead Harbour Trustees a scheme for the deepening of part of their harbour, and Fraserburgh Harbour Commissioners a scheme for the extension of the outer breakwaters, and for the reconstruction and strengthening of certain of the inner works.

In addition to the main improvement schemes, the applications in respect of Peterhead, Fraserburgh and Macduff covered proposals for the provision of repairing facilities for fishing vessels, a matter of the utmost importance to which the Board have previously directed attention.

Prior to the war advances from the Development Fund had been provisionally sanctioned for improvements at Portknockie, Findochty and Nairn, but it has not yet been possible to commence the works. During 1920 revised schemes in respect of these harbours were submitted to the Board, but the high costs involved under existing conditions presented serious difficulties, and the schemes were still under consideration at the close of the year.

From their own harbour funds the Board sanctioned during the



year a grant of £1200 in aid of the improvement of the pier at Buchanhaven, and grants of £1000 and £447 towards the additional cost of the improvement schemes at Macduff and Whitehills respectively.

Other cases which were submitted to the Board during the year were Port Errol, Cairnbulg, Banff, Whitehills (further scheme), Cullen, Balintore, Embo, Dunbeath, Port Skerra and Maidens. Certain of these cases are, however, situated in "congested" districts, and consequently fall within the province of the Board of Agriculture for Scotland as successors to the Congested Districts Board.

The following statement gives particulars of the grants and loans made for the improvement of Scottish fishery harbours since the institution of the Development Fund. In the case of Buckie and Macduff loans formally sanctioned since the close of the year under review are included.

	Advanced from Development Fund.		Contributed from Board's Funds.	Total.
	Grants.	Loans.		
Berwick-on-Tweed - - -	£4,000	£7,000	...	£11,000
Eyemouth - - - - -	1,200	9,700	...	10,900
Stonehaven - - - - -	6,500	7,000	...	13,500
Fraserburgh - - - - -	20,000	20,000	...	40,000
Gardenstown - - - - -	4,000	4,000	...	8,000
Macduff - - - - -	15,500	25,500	£5,000	46,000
Cullen - - - - -	2,300	2,300	1,700	6,300
Portknockie - - - - -	3,200	2,800	...	6,000
Findochty - - - - -	1,500	1,500	500	3,500
Buckie* - - - - -	8,000	96,250	15,000	119,250
Lossiemouth - - - - -	2,000	10,000	1,000	13,000
Nairn - - - - -	7,000	...	...	7,000
Cromarty - - - - -	750	1,500	...	2,250
Wick - - - - -	...	36,260	...	36,260
Whitehall (Stronsay) - -	10,000	...	...	10,000
Lerwick - - - - -	7,500	...	...	7,500
Ullapool† - - - - -	2,000	1,850	...	3,850
	£95,450	£225,660	£23,200	£344,310

\* In addition to the grants and loans shown above, a grant of £33,000 was made by the Treasury, and a loan of £55,500 was procured from the Public Works Loan Board.

† In addition a grant of £1500 and loans amounting to £1850 were made from the funds of the Board of Agriculture for Scotland.

Under the Ministry of Transport Act, 1919, that Department has power to make advances for the construction, improvement or maintenance of harbours, docks or piers, but so far no assistance has been forthcoming from this source.

It was necessary, however, to take steps to secure co-ordination between the various Departments now concerned in harbours, and for this purpose a standing Inter-Departmental Conference was constituted, consisting of representatives of the Ministry, the Development Commission and the three Fishery Departments. Several meetings of

the Conference were held during the year at which questions of general principle were considered and the cases of individual harbours were discussed.

In the autumn the Board were informed that the Ministry of Transport had certain funds which might be made available during the financial year ending 31st March 1921 for urgent repairs at fishery harbours, and they were asked to arrange for the submission of applications in respect of Scottish harbours.

The attention of the authorities of harbours which were known to be in need of repair was drawn to the matter, and after careful consideration of the applications submitted by such authorities a scheme comprising dredging or repairs at the harbours at Eyemouth, St. Monans, Pittenweem, Anstruther, Stonehaven, Fraserburgh, Gardenstown, Macduff, Cullen, Portknockie, Findochty and Burghhead was submitted to the Ministry. Subsequent, however, to the submission of the applications the Government issued strict instructions for the curtailment of expenditure, and as a consequence the Ministry found it was unable to make grants in any of the cases.

#### HARBOUR ADMINISTRATION.

In the memorandum on Post-war Problems prepared by the present Chairman of the Board and printed as Appendix I. to their Annual Report for 1918 reference was made to the necessity for amendments of the law relating to the administration of fishery harbours. The questions involved have received the Board's consideration during the year, but an opportunity for introducing the necessary legislation has not yet arisen.

#### DREDGING OF FISHERY HARBOURS.

Prior to the war the Board had under consideration the question of obtaining dredging plant for the improvement and maintenance of Scottish fishery harbours.

The large commercial ports maintain dredging plant for their own use, but this cannot be done in the case of smaller harbours, and it was apparent that the provision of suitable dredging plant by the Board for use at such harbours at a moderate cost would be of great benefit to them and to the fishing industry.

The outbreak of war rendered it necessary to postpone the matter, but since the termination of hostilities the question has again come under consideration.

War conditions restricted dredging operations at practically all the harbours in which the Board are interested, and in view of the arrears of work of this description and of the cost of having the work executed by ordinary contract or by the hire of privately owned plant, the Board submitted an application to the Treasury for funds to enable them to acquire dredging plant to be hired to harbour authorities.

To meet the requirements at the different places two vessels were considered necessary,—a hopper ladder dredger for dealing with the larger harbours, and a hopper grab dredger for the smaller ones and for dredging in places where the ladder dredger could not work.



In August 1920 the Treasury sanctioned an advance from the Development Fund for the purchase by the Board of the self-propelling dredger "Dragon"—a single screw hopper ladder dredger 120 feet long with a hopper capacity of 300 tons—and since the acquisition of the vessel she has been doing excellent work in Buckie Harbour.

Owing to the necessity for the restriction of expenditure the question of acquiring a grab dredger has been deferred for a time.

It is intended that the dredging service should be self-supporting, and the charges to be made against harbour authorities requiring the services of the plant will be at rates sufficient to cover the total cost of the dredging department, including interest on the cost of the vessels and an allowance for depreciation.

A report for the year by Mr. R. Gordon Nicol, O.B.E., M.Inst.C.E., the Board's Consulting Engineer, on the work on improvement schemes will be found under Appendix I., page 61.

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## CHAPTER X.

### SCIENTIFIC INVESTIGATIONS.

The year 1920 saw a general quickening of interest in fishery matters, including fishery research. The meetings of the International Council for the Exploration of the Sea were resumed, and at the first post-war conference held in London in March, at which Belgium, Denmark, Finland, France, Great Britain, the Netherlands, Norway and Sweden were represented, a programme of researches was drawn up for fulfilment by the various participating countries. Scotland was represented at the Conference by the Secretary (now Chairman) of the Board, the Scientific Member, and the Scientific Superintendent. Of the portion of the international programme of researches which was allocated to the United Kingdom, Scotland undertook its due share.

The allocation of the International programme of researches to the three component parts of the United Kingdom involved frequent consultations among the three fishery departments, and at the instance of the Development Commissioners, who made it a condition of grants from the Development Fund in aid of fishery research that there should be co-ordination and co-operation of effort among the Departments, a regular series of conferences was held, which proved of great advantage, both in the exchange of information and views and in the efficient and economical apportionment of the work. Three conferences were held during 1920, one in London in February, the second at Edinburgh in July and the third in London in October. The later conferences were attended by representatives of various independent marine institutions recognised by the Development Commissioners for the purpose of grants from the Development Fund in aid of fishery research.

The Scottish research work, which included numerous investiga-

tions already in progress, was conducted during the year mainly at the Marine Laboratory, Bay of Nigg, and in the Laboratory at the Old Post Office, Aberdeen, under the supervision of the Scientific Superintendent.

The expansion of the work necessitated additional assistance being obtained, and, as a result of the re-organisation of the whole of the Board's establishment, three junior naturalists and two technical assistants were added to the scientific staff. The question of increased and improved accommodation at the Laboratories at Aberdeen arose, and the Board obtained sanction for a grant for the purpose of effecting the necessary alterations, which have, however, for various reasons been deferred.

The Board's research vessel, the "Goldseeker," has not been found to meet all requirements, particularly in respect of deep sea research, and accordingly the Board made application for a larger and more powerful vessel. Eventually, by means of a grant from the Development Fund, an Admiralty trawler of the Lord Mersey type was acquired for adaptation for scientific research purposes.

A motor boat was also obtained for use in connection with scientific investigations in inshore waters.

#### PLAICE INVESTIGATIONS.

The most important of the resolutions adopted by the International Council for the Exploration of the Sea had reference to the plaice, which is generally regarded as of all British fishes the most liable to depletion and therefore in need of scientific regulation. These resolutions were as follow:—

- (1) That owing to the profound effects upon the stock of fish in the North Sea, produced by the conditions prevailing during the war, it is necessary to ascertain as fully as possible the present conditions now obtaining on the North Sea fishing grounds.
- (2) That the evidence now available indicates that the closure of limited areas of the North Sea to steam trawling and trawling by highly-powered motor fishing vessels would be of benefit to the plaice fisheries.
- (3) That since the question of closed areas is to be further examined, and special investigations are to be undertaken in this connection, the resolutions of the Plaice Committee of 1913 as to the impositions of size limits should be reconsidered also.

Following on these resolutions the International Council approved a programme of further researches for the ensuing twelve months with the object of providing material which might form the basis of new proposals for the protection of the plaice fisheries. The Board's share of the researches, which are still in progress, was carried out during 1920 mainly in the Moray Firth, and their research steamer "Goldseeker" was chiefly employed on this work throughout the year. The researches on the plaice include also ichthyometrics (fish measuring) at sea and drift bottle experiments, which are referred to hereunder.



## FISHERY INVESTIGATIONS OF THE "GOLDSEEKER."

In the early part of the year, until the 10th March, the "Gold-seeker" was undergoing an overhaul at Leith. In March, April, May, June, July, August, October and December the vessel carried on trawling and other investigations in the Moray Firth to ascertain specially the condition of the fishing grounds within and without the three-mile limit. In the latter part of August and the greater part of September she was engaged in special investigations with regard to whaling and herring fishing in Shetland waters, reference to which is made below. In November and December trawling investigations were made also in the Firth of Forth, on the old trawling stations of the "Garland."

During the year 136 hauls were made with the trawl nets. All the fish were enumerated and the great majority measured, the sizes being recorded, while many were opened and the condition of the reproductive organs ascertained and noted.

During the year 1981 fishes were marked and liberated, with the object of determining their migration and rate of growth. They comprised 1166 plaice and 815 lemon soles.

In connection with the investigations on the rate of growth of plaice and the distribution of the different year classes in the Moray Firth, many thousands of otoliths, or ear-bones, were examined.

• The various records and collections made by the "Goldseeker" are now being worked up by the staff with the object of preparing a comprehensive report on them, and in particular on the investigations in the Moray Firth.

Collections of micro-plankton were taken at various stations, particularly in the Moray Firth. These are being dealt with by a member of the Board's staff, to whom, by arrangement with the English and Irish Departments, similar collections from the rest of the United Kingdom are assigned for examination.

## ICHTHYOMETRY.

Before the war there was evidence not only of diminution of the stock of plaice in the North Sea, but also a serious reduction in the average size of the fish caught. It was felt to be highly desirable to obtain statistics as to the sizes of the fish, and by means of funds provided for the purpose out of the Development Fund, and in fulfilment of the programme of research approved by the International Council, four men—and later in the year six—were employed in measuring fish on board steam trawlers fishing in the North Sea. The fish measured included cod and haddock as well as plaice, and many thousands of records were made, a sample of each haul being measured and recorded. The records have been forwarded to the Ministry of Agriculture and Fisheries, who have undertaken, as one of the measures of co-ordination arranged at the inter-departmental conferences, to deal with such records for the whole of the United Kingdom.

Much importance is attached to measurements taken at sea, since by this means alone is it possible to determine the range of the sizes of the fish on the fishing grounds, and the proportions of the different year-classes present.

## NORTH SEA CURRENT INVESTIGATIONS.

The effects of sea currents on the conditions which influence the development and growth of fishes and their migration and distribution are of much interest and importance, and have for many years been the subject of investigation by the Board.

In continuation of the former investigations and in accordance with the scheme prepared by the International Council a large number of drift-bottles were put away during the year, chiefly at five stations, viz., at the Bell Rock; at Smith Bank, in the Moray Firth; off Buchanness; at Fair Isle; and at Balta Island at the north of the Shetlands. At the Bell Rock the liberation of the bottles was, through the courtesy of the Northern Lighthouse Board, carried out by the Lighthouse keeper.

The bottles consisted of ordinary soda-water bottles, and were of two types, viz., one so poised as to float at the surface of the sea to show the surface currents, and the other weighted so as to drift along the bottom to determine the bottom currents. The bottles of the latter type were provided with a wire "tail," about two feet in length, to keep them off the bottom. Each bottle contained a printed post-card, with directions, in five languages, to the finder to insert the place and date of recovery, and to post the card to the Board's Scientific Superintendent, Aberdeen.

During the year 2400 bottles were liberated, comprising 1100 surface and 1300 bottom drifters. The number recovered up to 31st December 1920 was 140 surface and 150 bottom drifters. This investigation is still in the initial stage, but it may be mentioned that by far the greater number of the surface drifters recovered drifted northwards, many of them having been found off the coast of Norway. In previous experiments the direction taken by the drift-bottles was to the south along the Scottish and English coasts. The reversal of the movement in the autumn and winter of 1920 was probably due to the marked prevalence of southerly winds.

## THE HATCHING OF PLAICE.

Although the stock of adult plaice in the spawning-pond at the Hatchery, Bay of Nigg, Aberdeen, has not been renewed or added to since the year 1913, about one hundred of the fish still remain. Some of these are of small size, and have been bred in the pond. The adults spawned as usual in the early months of the year. It is estimated that fully 2,000,000 fertilised eggs were taken from the pond, rather more, it would appear, than in the previous year, between the beginning of February and the middle of April. Over 1,500,000 of the plaice fry which were obtained were liberated in the sea in the neighbourhood of Aberdeen.

Since the hatching of the plaice was begun at Aberdeen the number of eggs which has been dealt with is about 450,000,000, and over 350,000,000 fry have been placed in the sea. To what extent this liberation of fry affects the stock is uncertain. The work is carried on in conjunction with the other work of the Marine Station, and involves practically no special expenditure.



## INVESTIGATIONS ON THE HERRING.

The investigations on the herring fishery in Loch Fyne, referred to in previous Reports, were carried on during the year as far as circumstances allowed, observations being made on the temperature of the water and on the abundance of "plankton," the minute floating life upon which the herring chiefly feeds.

The subjoined table gives the total quantity of herrings obtained in Loch Fyne in each year since 1900:—

Herrings Caught.			Herrings Caught.		
1900	-	- 86,600 cwts.	1911	-	- 16,352 cwts.
1901	-	- 101,909 "	1912	-	- 7,672 "
1902	-	- 92,186 "	1913	-	- 10,696 "
1903	-	- 74,193 "	1914	-	- 3,216 "
1904	-	- 27,394 "	1915	-	- 13,399 "
1905	-	- 16,352 "	1916	-	- 2,576 "
1906	-	- 18,403 "	1917	-	- 899 "
1907	-	- 13,699 "	1918	-	- 5,763 "
1908	-	- 14,245 "	1919	-	- 41,973 "
1909	-	- 12,894 "	1920	-	- 93,982 "
1910	-	- 36,417 "			

The catch in each of the months of 1920 was as follows:—

Cwts.			Cwts.		
January	-	- 10,213	July	-	- 8,155
February	-	- ...	August	-	- 1,984
March	-	- ...	September	-	- 1,069
April	-	- 658	October	-	- 1,722
May	-	- 1,245	November	-	- 19,590
June	-	- 3,698	December	-	- 45,648

The total quantity caught in 1920, more than half of which was taken in the two concluding months of the year, shows a striking increase over the catches of recent years, and indicates a reversion to the successful fishing which obtained prior to 1904. The remarkable fluctuations in the distribution of the herrings in the Loch Fyne area is a phenomenon deserving of close study, and the Board propose to continue their investigations with the view of elucidating the reasons therefor.

The special observations made by the S.S. "Goldseeker" in Shetland waters in August and September serve to throw some light on the vexed question of the fluctuations in the herring fishing in the North Sea. Conditions in the area investigated were found to be far from normal, and the summer fishing was already coming to a premature close after a most disappointing season. An indication of the prevailing hydrographical conditions had previously been obtained from investigations carried out in the Moray Firth in July, when it was noted that large numbers of salps, chiefly *Salpa fusiformis*, had made their appearance, especially on the Smith Bank area. The normal habitat of these organisms, which are not unlike jelly-fish in appearance, is the Atlantic, and they have not been seen in the North Sea since the year 1905, when apparently under somewhat similar hydro-

graphical conditions a similar incursion took place. During the course of the cruise these salps were found in all waters from Kinnaird Head northwards to beyond Shetland, embracing the greater part of the area within which the summer herring fishing is carried on, and their abundance may be judged from the fact that herring fishermen frequently found that the drift nets were clogged with them and could be hauled only with difficulty.

Another striking feature, revealed by the collections made by pelagic nets, was the remarkable dearth of the ordinary minute crustacea which are usually found in these waters at this period of the year and which constitute the principal food of the herring. It would appear as if the salps had flooded the area to the exclusion of all other forms of marine life.

Whether the lack of success experienced by the drift net fishermen was due to the abnormal conditions thus revealed it is difficult to say, but further attention is being given to the point. It may be noted that in 1905 when the last incursion of salps took place herrings appear to have been almost entirely absent from the Moray Firth grounds, but were taken in abundance on the grounds from 50 to 60 miles east of the Shetlands throughout the season.

Attention was also directed in the course of the cruise to dog fish, which are frequently a pest in Shetland waters. The absence of the smaller forms and the rarity of gravid females lent support to the view already held that the species really belongs to the warmer waters of the Atlantic, from which it makes incursions of longer or shorter duration into the North Sea.

Experiments were made off the Shetland coast with anchored herring nets of various sizes of mesh. The following four distinct groups of herrings were found to be present:—

1. Length approximately 5 inches; not well represented in catches, but evidently abundant.
2. Length  $7\frac{1}{2}$ –8 inches; very fat, reproductive organs still immature; well represented. The local fishermen were unaware of the presence of this group, as the mesh of the anchored nets they were using was too large for their capture.
3. Length approximately  $9\frac{1}{2}$  inches; fat; reproductive organs in some cases beginning to develop.
4. Length 10– $12\frac{1}{2}$  inches; not homogeneous as regards sexual development, both spent and maturing fish being present.

From the records it may be provisionally deduced that the herrings approach the coast in the first year of their life and remain in the neighbourhood for at least two years.

An investigation was also made during the year as to the condition of trawled herrings from various localities in the North Sea, especially in relation to the development of the reproductive organs and the nature of the food contained in the stomachs.

A research was also instituted on larval and post-larval herrings, and on the distribution of the small herrings in inshore waters.

It may be mentioned in relation to the growth of the herring that in August 1917 certain small herrings procured in the estuary of the Dee were put in the large spawning pond, the fish measuring approxi-



mately from 5.5 to 8 cms. ( $2\frac{1}{4}$ - $3\frac{1}{4}$ ) inches. In June 1918 the length appeared to have increased to about 15 cms. (6 inches), in March 1919 to about 18 cms. (7 inches) long; in July 1919 to about 21.1 cms. ( $8\frac{1}{4}$  inches), and in June 1920 to about 23.4 cms. ( $9\frac{1}{4}$  inches).

#### METEOROLOGY.

The Board are naturally interested in meteorological phenomena, which, apart from their direct effect on practical fishing operations, exercise a profound if less determinate effect on the conditions of marine life. The inter-relations of meteorology and hydrography form one of the most difficult and complex aspects of fishery research, one of the functions of which is to determine how far and in what manner the production, development, migration and habits of the fish are affected by weather conditions, with their varying influences on the movements, temperatures and general conditions of the sea.

It is hoped that a closer co-operation between meteorological and fishery research in Scotland will be possible as a result of the establishment at Edinburgh of a branch of the Meteorological Office; and the appointment of a Scottish Advisory Meteorological Committee on which the Board are represented.

Through the instrumentality of the Board and the courtesy of the Meteorological Office, barometers have for many years past been supplied to numerous fishing stations on the Scottish coasts for the use of local fishermen. The instruments are in many cases of an obsolete pattern, and the question of replacing these with more modern instruments has received consideration. It is understood that the Meteorological Office will be prepared, whenever possible, to supply barographs which will, it is thought, prove more serviceable to the fishery communities.

#### ORNITHOLOGY.

From time to time the Board's attention has been directed to the depredations of wild birds on the stock of sea and freshwater fish. The feeding habits of certain sea birds are forming the subject of enquiry, and the matter is being kept under observation. The Board are represented on the Ornithological Advisory Committee for Scotland, which has been appointed in accordance with the recommendation of the Report of the Departmental Committee on the Protection of Wild Birds.

#### REPORTS ON INVESTIGATIONS.

During the year two scientific reports were published, one by Dr. Fulton (a "Report on the Marking Experiments on Plaice, made by the S.S. 'Goldseeker' in the years 1910-1913"); the other by Dr. Alexander Bowman on "The Eggs and Larvæ of the Angler (*Lophius piscatorius*) in Scottish Waters,—a Review of our Present Knowledge of the Life History of the Angler."

Other papers approaching completion at the end of the year com-

prised one on the distribution of plaice eggs in the northern North Sea; on the distribution and migration of the edible crab; on the growth of the lemon sole; on the post-larval stages of the Gadidæ, and on the herring trawling investigations in the North Sea.

## CHAPTER XI.

### SALMON FISHERIES.

The total weight of salmon and sea trout carried by rail and sea in Scotland in 1920 was 1448 tons 17 cwt. This total is 354 tons below the weight carried in 1919, and 203 tons below the figure representing the last quinquennial average. The catch by net, therefore, was the worst, with one exception, in the history of the Scottish Salmon Fisheries. The lowest total was that of 1916, when the figure was 173 tons below that of 1920.

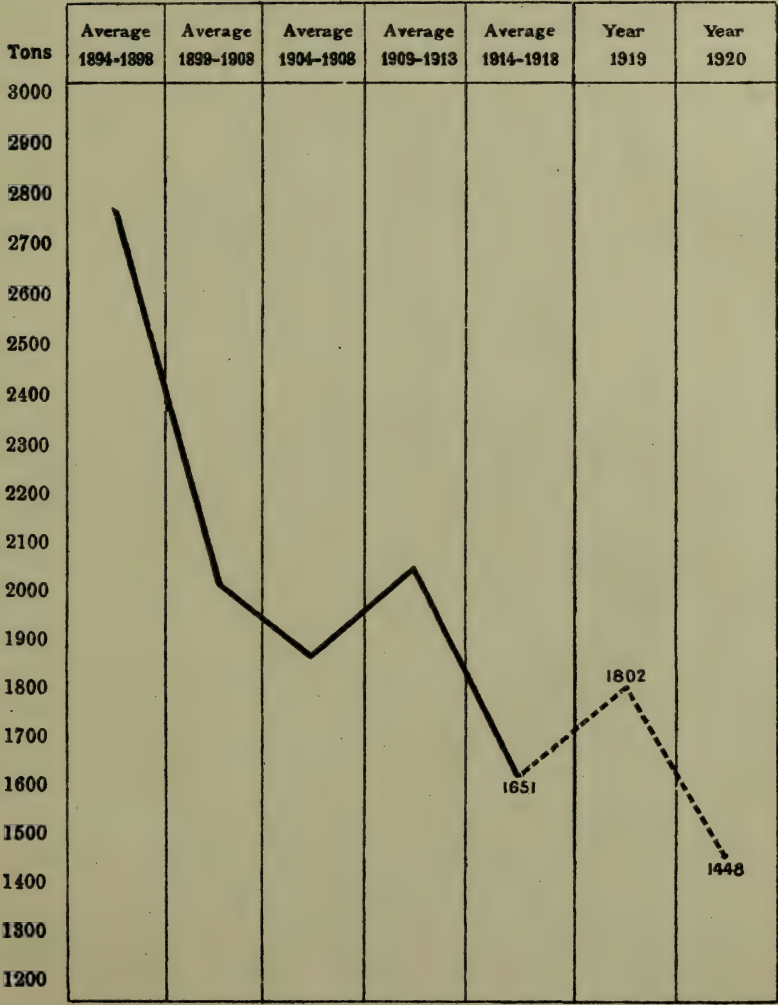
While this result is depressing, it happens none the less that, owing to the high price obtained for the fish, the financial results have apparently been satisfactory. The wholesale prices at Billingsgate for Scottish salmon were, expressed in monthly averages, 4s. 5d. for February, and thereafter, 3s. 8 $\frac{1}{2}$ d., 3s. 9 $\frac{1}{2}$ d., 3s. 5d., 3s. 5 $\frac{1}{2}$ d., 3s. 8 $\frac{1}{2}$ d., 3s. 11 $\frac{1}{2}$ d., and 3s. 7 $\frac{1}{2}$ d. per lb. Another factor of interest was that angling in most districts was exceptionally good, especially in spring, and that, owing apparently to the abundant rainfall in all districts south of Inverness, many fish passed the nets. The stock of fish, therefore, was probably much better than the catch by nets indicates. It appears that the Tay District yielded to the rod over 4500 fish, the Tweed 2850, and the Helmsdale 3400. These are three typical East Coast rivers. Grilse, however, were not so numerous as in the previous season.

The accompanying chart of curves shows the fluctuations, as shown by the weight of salmon carried to market, since 1894. The country is divided into four districts:—Berwick to the entrance to the Moray Firth at Cairnbulg Point, the latter point to Cape Wrath, Cape Wrath to the Clyde, and the Clyde to the limits of the Upper Solway. The actual figures are given in a table arranged in five quinquennial periods, to which are added the figures for seasons 1919 and 1920.

[TABLE.



# Approximate Weight of Salmon carried by Scottish Railways and Steamships annually since 1894.







District.	Average, 1894 to 1898.				Average, 1899 to 1903.				Average, 1904 to 1908.				Average, 1909 to 1913.				Average, 1914 to 1918.			
	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.
a Berwick to Cairnbulg Point	1,206	18	1	1	839	1	2	9	887	8	2	24	1,015	5	3	18	884	1	3	17
b Cairnbulg Point to Cape Wrath.	900	17	3	6	737	10	3	17	608	13	1	19	664	14	-	3	518	8	3	17
c Cape Wrath to Glasgow . . .	403	7	1	21	274	18	1	27	209	3	3	6	205	2	-	7	157	8	3	10
d Glasgow to the Border . . .	260	3	2	6	183	6	1	19	160	9	3	15	171	13	1	3	91	12	-	-
Totals . . .	2,771	7	-	6	2,034	17	1	16	1,865	15	3	8	2,056	15	1	3	1,651	11	2	16

District.	Year 1919.				Year 1920.			
	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.
a Berwick to Cairnbulg Point	1,027	13	2	12½	828	14	-	20
b Cairnbulg Point to Cape Wrath.	520	6	-	8	367	2	2	22
c Cape Wrath to Glasgow . . .	148	4	1	1	160	10	3	7
d Glasgow to the Border . . .	106	16	-	-	92	10	-	-
Totals . . .	1,802	19	3	21½	1,448	17	2	21

A chart showing the curve of the averages will be found in the report of the Inspector of Salmon Fisheries of Scotland (p. 136). It appears that, since these returns were first obtained, the average weight of salmon sent to market has dropped approximately by 1200 tons.

The Inspector has, on more than one occasion, called attention to the fall in the percentage of grilse to salmon, and it is clear that a very considerable diminution in the numbers of these adolescent fish of light weight may be masked in a return of the kind here given. We are unable, unfortunately, to give any clear statistics of numbers. It appears from the Inspector's report that grilse have now become fewer than adult salmon in places such as the north coast of Caithness and Sutherland where formerly they were in greatest known abundance.

In connection with the conservation of the spawning areas of the salmon, questions of considerable importance have arisen through the promotion of hydro-electric power schemes in Scotland. Two such schemes, viz., the Lochaber water power and the Grampian electricity supply schemes, have recently been under the consideration of the Board from the point of view of their probable effect on the salmon fisheries of the districts concerned. A scheme put forward for the drainage of the haughlands of the River Spey was also considered by the Board from a similar point of view.

The dangers threatening the salmon fisheries from schemes of this kind and from the growing evil of pollution are serious, and in the Board's view point clearly to the need for some properly constituted power of control. A revision of the Scottish Salmon Fishery Acts, which would be required for this purpose, is urgently needed

for other reasons which have been set forth in previous Reports. There has been no revision of these Acts since 1868.

The Board's investigations into the migratory movements and habits of salmon were continued during 1920 and have yielded interesting and valuable results, which are being published in a separate paper.

In view of the probability of further schemes being promoted for the utilisation of water-power from Scottish rivers, and of the danger to spawning grounds therein involved, the question of the value of artificial propagation of salmon assumes increased importance, and during the year the Board put forward proposals for the conduct of hatching experiments to be carried out in the River Add, but owing to the necessity for national economy the experiments have had to be postponed.

With a view to co-ordination and economy proposals were also made for the centralisation under the Board's charge of the work of examining the salmon scales collected throughout the United Kingdom and formerly dealt with separately by the Fishery departments of England, Scotland and Ireland.

The results of the researches made on the sea trout of the River Forth by Mr. W. J. M. Menzies, assistant to the Inspector of Salmon Fisheries, were issued during the year in the Board's Salmon Fisheries series of scientific publications.

We have the honour to be,

SIR,

Your most obedient Servants,

DAVID T. JONES, *Chairman.*

W. LYON MACKENZIE, *Deputy-Chairman.*

D'ARCY W. THOMPSON.

JOHN H. IRVIN.

MALCOLM SMITH.

DUNCAN MACIVER.

WILLIAM MILLER.

GEO. HOGARTH, *Assistant Secretary.*



# APPENDICES.

## APPENDIX I.

### HARBOUR IMPROVEMENT SCHEMES.

REPORT BY MR. R. GORDON NICOL, M.Inst.C.E.

I have the honour to submit, for the information of the Board, the following report on the Harbour Improvement Schemes which are being carried out under the supervision of the Board, and were in progress for the year ended 31st December 1920.

The following table gives a list of these harbours, along with the estimated cost of the schemes and the assistance in grants and loans that is to be provided from the funds at the disposal of the Development Commissioners and the Board.

Name of Harbour.	Estimated Cost of Scheme.	Assistance to be provided.		
		Free Grants.	Loans.	Total.
Eyemouth - - - -	£11,400	£1,200	£9,700	£10,900
Fraserburgh - - - -	40,000	20,000	20,000	40,000
Gardenstown - - - -	9,500	4,000	4,000	8,000
Macduff - - - -	47,750	19,500	17,500	37,000
Banff - - - -	8,000	5,750	...	5,750
Whitehills - - - -	3,600	2,750	...	2,750
Portknockie - - - -	8,000	3,200	2,800	6,000
Findochty - - - -	6,700	2,000	1,500	3,500
Buckie - - - -	220,000	18,000	39,750	57,750
Lossiemouth - - - -	17,000	3,000	10,000	13,000
Nairn - - - -	18,000	7,000	...	7,000
Wick - - - -	31,260	...	31,260	31,260
Total - - - -	£421,210	£86,400	£136,510	£222,910

#### *Eyemouth Harbour.*

This improvement scheme, which is for the deepening of the entrance channel to the harbour by the removal of submarine rock, was suspended on account of the war and is still in abeyance. There has been no settlement of the differences which have arisen between the Contractor and the Trustees regarding the contract for the execution of the work.

As the harbour had become very much silted during the war and fishing vessels had great difficulty in entering and leaving the port, the Trustees made application to the Treasury for financial assistance to enable them to have the necessary dredging carried out, and for this purpose the Treasury, on the recommendation of the Development Com-

missioners, sanctioned a loan of £7200 from the Development Fund. Dredging operations were commenced in April with dredging plant hired by the Trustees, and the quantity of sand and gravel removed from the harbour and deposited at sea during the months from April to August amounted to 15,000 tons, when dredging operations were suspended for a time.

Payments amounting to £3500 by way of loan were made to the Trustees from the Development Fund during the year.

#### *Fraserburgh Harbour.*

Last year the Harbour Commissioners obtained a Provisional Order to enable them to carry out the scheme of improvement works at the harbour which they had previously adopted. These works are essentially of a protective character, designed to save the existing harbour works from further damage by the sea and to provide quiet water within the harbour area, and they form the completion of the improvement scheme which has already been partially carried out and which included the construction of Faithlie Harbour. The Commissioners also adopted a scheme for the construction of a slipway with side-slipping berths on a site adjacent to Faithlie Harbour. They have applied to the Treasury for financial assistance from the Development Fund to enable them to proceed with these works, and the application is under consideration.

#### *Gardenstown Harbour.*

This improvement scheme, which includes an extension of the East Pier and the construction of a new harbour basin, was suspended in 1916 on account of the war, and is still in abeyance.

#### *Macduff Harbour.*

Work on this improvement scheme is almost completed. During the year 6740 cubic yards of rock and 4557 cubic yards of soft material were removed from the new harbour basin and deposited on the foreshore to the east of the harbour, the rock being excavated by means of pneumatic drilling plant and explosives. The quay wall on the south side of the basin was constructed for a length of 145 feet, and a new concrete facing wall 140 feet long was erected in front of the old stone jetty at the west end of the basin. The formation of the entrance between the existing harbour and the new basin was commenced by cutting through the rock under the jetty and constructing 15 feet of the entrance wall.

The expenditure on the scheme having exceeded the estimate on account of the enormous rise which has taken place in wages and the cost of materials, the Town Council have made application for further financial assistance.

The application by the Council for financial assistance to carry out a scheme for providing a slipway at the east end of the new basin is under the consideration of the Treasury.

A payment amounting to £3000 by way of loan was made to the Council from the Development Fund during the year.

#### *Banff Harbour.*

Work on this improvement scheme has been suspended during the year owing to lack of funds, and the Trustees have made an application to the Board for a further grant to enable them to complete the scheme.

No payments were made to the Trustees during the year.



*Whitehills Harbour.*

This improvement scheme, which includes the construction of a new concrete jetty and quay, and the deepening of a portion of the harbour, was completed in the early part of the year.

As the expenditure on the work had exceeded the estimate, owing to the enormous increase that has taken place in wages and the cost of materials, the Harbour Commissioners made application to the Board for further financial assistance, and for this purpose an additional free grant of three-fourths of the excess expenditure was made by the Board.

A payment amounting to £925, 3s. 5d. by way of free grant has been made to the Harbour Commissioners during the year from the funds of the Board.

*Portknockie Harbour.*

This improvement scheme is still in abeyance. A modified general scheme of improvement works has been prepared by the Harbour Commissioners, and proposals to carry out certain portions of the scheme are under their consideration.

*Findochty Harbour.*

This improvement scheme has not yet been proceeded with, and the scheme is under revision by the Harbour Commissioners.

*Buckie Harbour.*

Work on this improvement scheme has made steady progress during the year. The concrete roadway of the North West Pier has been laid over an area of 2477 square yards, and the water main, which is situated in a concrete conduit in the roadway, has been extended for a length of 438 feet. The beacon on the "Mucks" rocks outside the harbour, which was destroyed by a storm, has been replaced by a new iron structure with concrete base secured to the rock. A new steel opening footbridge, operating on the roller principle, has been erected across the entrance to No. 4 basin, and a high pressure gas system has been installed for the lighting of the harbour with gas engine compressing plant and powerful lamps. The rectifying of the defective joints in the blockwork of the North West Pier has proceeded when weather permitted, and the repair to the sea face of the North Pier under the lighthouse has been completed. A new public lavatory situated on the South Quay has been completed. Considerable progress has been made towards deepening the entrance to provide a depth of 12 feet at low water of ordinary spring tides by the removal of rock, sand and gravel. A Lobnitz patent rockbreaker is at work breaking the rock, which will be removed by the bucket dredger "Dragon" belonging to the Board. The quantity of sand and gravel already dredged and deposited at sea has amounted to 4732 cubic yards.

The financial aspect of the scheme still continues to engage the attention of the Town Council, as the expenditure on works has exceeded their financial resources. They have submitted an application for further financial assistance, which is now under the consideration of the Treasury.

A payment amounting to £6750 by way of loan was made to the Council from the Development Fund during the year.

*Lossiemouth Harbour.*

Work on this improvement scheme is still suspended.

The Harbour Commissioners have arranged a settlement of the

Contractors' claims arising out of the works already executed, and they are making arrangements for the completion of the scheme, but as the available funds are insufficient they have made application for additional financial assistance.

A payment of £985, 6s. 4d. by way of loan has been made to the Commissioners from the Development Fund during the year.

*Nairn Harbour.*

This Improvement Scheme has been reconsidered by the Town Council, who have submitted fresh proposals.

*Wick Harbour.*

The progress of the special repairs necessary to secure the stability of the piers and breakwaters has been slow this year on account of the exposed site and stormy weather, and the operations have had to be suspended during the worst of the winter season. The workmen engaged on the special repairs had also to be withdrawn on occasions for other work of an urgent nature at the harbour.

The reconstruction of the North River Pier was commenced in the early part of the year, and this involved the removal of a large quantity of debris and the landward section of the inner wall of the pier, which was overturned when the pier was destroyed in 1912. A 10 tons steam crane with grabbing appliance was erected on the site and removed the debris. The overturned wall was then removed by drilling and blasting the concrete into convenient pieces, which were lifted by the crane. The early stages of the work have been tedious, but the first section of the new wall is ready for filling with concrete. When the work is interrupted by stormy weather the men are employed quarrying stone and collecting sand for concrete.

The expenditure on the repair works has exceeded the original estimate owing to the enormous increase in wages and the cost of materials which has taken place since the works were commenced, and the Trustees have made application for further financial assistance to enable them to complete the works.

Payments amounting to £7912, 19s. 1d. by way of loan have been made to the Trustees from the Development Fund during the year.

*Bucket Dredger.*

The Board in September obtained an advance from the Development Fund for the purchase of a bucket dredger to enable the authorities of fishery harbours to improve and maintain the depth of water in these harbours at moderate cost, and the dredger "Dragon" was purchased for this purpose at a cost of £19,500. The "Dragon" is a self-propelling hopper dredger of modern construction, of a convenient size, and with suitable power and hopper capacity to deal with the dredger work required by these harbour authorities. During the three months it has been in the service of the Board it was hired by the Buckie Town Council for deepening the entrance and approaches to the harbour.

A number of other harbours have applied for the services of the dredger when the work at Buckie is finished.

It is intended to charge for the services of the dredger at such rates as may be necessary to cover the expenses of the vessel.

R. GORDON NICOL,  
*Consulting Engineer.*



## APPENDIX II.

ANNUAL REPORTS BY INSPECTORS OF SEA FISHERIES  
AND FISHERY OFFICERS.REPORT BY GENERAL INSPECTOR ON STEAM TRAWLING, STEAM  
LINING, AND FLOUNDER SEINE NET FISHING.

During the year 1920 the Scottish steam fishing fleet was completely reconditioned, and restored to more than a pre-war basis. The number of vessels employed in trawling in Scotland, including 31 English craft that fished regularly from Scottish ports, was 385, which is the largest number on record, and an increase of 91 over the figures for 1919. In 1913 the fleet, including 22 English trawlers, numbered 320; and in 1914 the total was 332 trawlers, of which 19 were English.

The financial results were unfortunately very disappointing, both to owners and crews. Prices, apart from an occasional congested market, were generally higher than pre-war averages; and had working expenses been normal, all concerned should have had good returns from the venture, but the high cost of fuel and fishing material, and the high wages now paid, left at the best but meagre profits, while crews often settled in debt at the end of a voyage. Unless drastic reductions in working expenses, especially fuel and fishing material, can be effected, prospects for the trawling industry must be regarded as very gloomy. While dull trade and unemployment throughout the country have also to be reckoned with, there is little doubt that the great increase in the catching power of the trawling fleet is largely responsible for the unremunerative prices often current for fish now, and it will not be surprising if a good many trawlers are laid up for part of the summer of 1921.

In Leith district the average number of trawlers working was 70, as compared with 40 in 1919. Fishing operations were interrupted, first by a fishermen's strike which occurred towards the end of the previous year, and was not settled till the middle of January; and subsequently by a miners' strike in the autumn, during which the available supplies of coal were rationed out to the boats on a basis of 50 per cent. of their normal requirements. Notwithstanding these handicaps the quantity and value of the fish landed were the highest in the history of the district.

A few of the larger Granton trawlers worked out in the North Sea, off the Aberdeenshire coast, but the bulk of the fleet fished well inshore near the entrance to the Firth of Forth, or off St. Abb's Head. In September some of the Granton boats trawled for herrings on the Dogger Bank with very satisfactory results.

There was a big proportion of small haddocks among the fish caught on the nearer grounds, and the low prices realised for these small haddocks reduced the earnings of the vessels so much that trawling was not remunerative, especially during the latter half of the year. The average price of trawl fish for the year was only 24s. per cwt.

Three steam drifters belonging to Leith district, and one belonging to Eyemouth, were engaged in trawling last year,—some of them only during the spring months. The crews made fairly satisfactory earnings,

and managed to keep their boats profitably employed during a dull period.

The Montrose district fleet was increased during the year by 18 trawlers, a good many of which worked from Aberdeen. Most of the others were short-trip trawlers, and they generally landed at Dundee. The average price of trawl fish was 32s. 2d. per cwt., against 41s. 4d. in 1919. The most successful trawler earned £12,000 during the year.

The Aberdeen trawling fleet increased during 1920 to 260 vessels, the greatest number ever employed at the port. The value of all fish landed was a record, and the quantity came within 11 per cent. of the catch for 1913, which was, and continues to be, the greatest on record. Of the total landings at Aberdeen, 82 per cent. consisted of trawled fish, of an average value of 26s. 9d. per cwt.

Unfortunately the general results of the year's working were not so satisfactory as these figures would lead one to expect. As a result of the great increase in the catching power of the local fleet the market was frequently congested, and prices then realised were so low that debit settlements often resulted. Long-voyage trawlers were generally the greatest sufferers, as short-trip trawlers realised good prices for some landings, whereas a bad market for an Iceland voyage meant low earnings for 3 or 4 weeks' work. The increase in working expenses was a very serious matter. In 1913 coals cost 15s. or 16s. per ton, while last year prices were from 55s. to 60s. Fishing material cost about three times as much as in pre-war days, while the loss of gear through fouling sunken wrecks was on an unprecedented scale. One trawler is said to have lost no fewer than 13 sets of gear during the course of the year.

There were so many unprofitable voyages that owners laid up a number of the large, long-voyage trawlers for three months. It is understood that unless the large trawlers earn at least £1000 a month they do not pay their way. One fortunate craft earned £20,500 during the year, but that was quite an exceptional case, and a considerable number of the largest trawlers finished the year in debt.

The short-voyage trawlers were generally fairly fortunate, although their earnings were greatly reduced on account of the low prices realised for small haddocks and whittings, a good part of which went for manure.

The Faroe fishing was a failure. Fish were very scarce, and crews often settled in debt even after trying to make up their loss by fishing in the North Sea on the return voyage.

The Iceland fishing also proved an unsatisfactory venture, and was not prosecuted on a normal scale by Aberdeen trawlers. As a result, neither catch nor value came up to the pre-war standard. Icelandic fish are mostly bought for dry-curing, and a scarcity of competent splitters handicapped Aberdeen curers to some extent. A good many English trawlers landed wet-salted fish, which found more favour with buyers on account of the saving of labour effected.

The cod curing and drying industry was not conducted with the usual energy. The lack of experienced workers handicapped business to some extent, but the demand for cured fish was weak, and the condition of the exchange restricted exports to the usual foreign markets.

Trawling for herrings was commenced about the end of August and was continued, with more or less regularity, for about 6 weeks. In all, 71 trawlers participated, making from 1 to 6 voyages, and totalling 180 arrivals. They worked on the Fladden grounds, about 120 to 150 miles N.E. by E. from Aberdeen, where herrings of fine quality were got. This area had often been fished by the Aberdeen fleet before, but herrings had never before been found so plentiful there. The catch for 1920, amounting to 10,844 crans, was purchased, mostly for kippering,



at an average of 65s. per cran. Peterhead and Fraserburgh kippering firms were sending to Aberdeen for supplies after the close of the herring fishing at their own ports. The most successful vessel earned £2553 for 4 trips, and the best shot realised £1104; but a number of crews did not find the venture remunerative, and discontinued trawling for herrings.

Ordinary trawls were mostly used, only a few boats being fitted out with special herring trawls. These nets were mostly made in Germany before the war, and a fleet of German trawlers equipped with special herring trawls worked on the Fladden grounds beside the Aberdeen vessels.

The miners' strike, which took place about the end of October, hindered fishing operations considerably; and when coals had to be rationed on a fifty per cent. basis some owners laid up half their boats, so that the rest might have full supplies and be unrestricted in their fishing operations.

The Peterhead trawling fleet was increased by 7 vessels, some of which were local drifters fitted out with otter trawls, while others were trawlers bought from other districts. The Peterhead trawlers generally land their catches at Aberdeen, and only occasionally visit Peterhead.

At Fraserburgh 2 large motor boats were fitted out with otter trawls, but the venture did not prove successful, and after a few trials the gear was disposed of. Throughout the year steam trawlers frequently landed fish at the port, but the bulk of the landings was sent to Aberdeen by rail.

A few steam trawlers are still owned and registered in the Greenock district; but, with the exception of one small shot, steam vessels landed no fish in Glasgow in 1920.

An attempt was made to develop trawling at Stranraer, where two large trawlers worked during the first five months of the year. The fishing proved unremunerative, however, and the vessels were transferred to Fleetwood.

At Annan about 40 small-sized sailing trawlers are employed fishing in the Solway Firth, where, owing to rapid tides and shifting sands, no other method of fishing is possible. The Annan fishermen use beam trawls in autumn and winter for the capture of flat fish, and during the summer months they mostly engage in shrimp trawling.

Seine net fishing (a modified form of trawling) for plaice and other flat fishes had been permitted for many years in the Firth of Clyde and on the Haddington coast, only sailing or motor yawls being allowed to work, and the season being restricted to the autumn months. Under the exigencies of war conditions concessions were made, and in 1917 the area from off Red Head, Forfarshire, to the mouth of the Ythan in East Aberdeenshire was opened for seine net fishing. This extension came at a time when small-line fishing had ceased to be remunerative, and a number of crews about Aberdeen, Gourdon, Johnshaven, Ferryden and Arbroath provided themselves with seine nets and commenced to use them.

At Aberdeen 35 motor yawls, including a number belonging to Gourdon, were very profitably employed at seine net fishing last autumn. The most successful crew earned £767, and the average was £364, for about two months' fishing.

Owing to the success achieved by these crews, a strong and fairly unanimous movement was set on foot for opening up the whole of the East Coast from Rattray Head to Fife Ness to seine net fishing. Fishermen were influenced in favour of the net by the fact that, apart from its initial cost, there is little expense connected with seine fishing;

whereas the increased cost of lines, bait, labour and motor fuel has rendered small-line fishing unremunerative.

At Aberdeen great-line fishing was very successfully prosecuted by a fleet that at one time numbered about 120 steam vessels. That number included over 30 local trawlers, which fitted out with great-lines and worked during the summer months, and a large number of vessels of the drifter class, which hailed from Peterhead, Buckie and the Fifeshire ports, and which worked principally in the North Sea. The larger liners worked off the N.W. coasts of Orkney and Shetland, off the West coast of Ireland and off Faroe, Rockall and St. Kilda. Landings of halibut constituted a record, the fish having doubtless multiplied through the closure of the fishing grounds during the war. Halibut were in great demand, and the average price, 93s. 7d. per cwt., was the highest on record at the port. The most successful drifter-liner earned £12,000, while of the larger liners the best earned the unprecedented total of £22,000 for the year's work.

With the increase in the landings of both trawl and line fish at Aberdeen, there was also a boom in the ice-manufacturing business, which is an indispensable adjunct to the fresh fish trade. The Aberdeen factories had a record season, the total output reaching 110,000 tons, against 65,000 tons in 1919. Many English vessels called at Aberdeen for supplies of ice during the summer months, owing to scarcity of this commodity at their home ports, and considerable quantities were also sold to France.

It is rather an interesting fact that ice is sold in Aberdeen at a lower rate than anywhere else in Britain. The price in Aberdeen in 1920 was £1 per ton, as compared with £1, 7s. 6d. at Grimsby and £1, 10s. at Hull. The pre-war price at Aberdeen was 7s. 6d.

Shipbuilding, so far as fishing vessels were concerned, was slackier than it has been for many years, largely owing to the fact that a great many Admiralty vessels were being offered for sale. Prices of trawlers had declined by about 25 per cent. since 1918-19. Motor boats were also decreasing in value, and, since the return and reconditioning of steam drifters after Admiralty service, it has become increasingly difficult to find crews for motor boats in some districts.

R. J. DUTHIE,

*General Inspector of Sea Fisheries.*

EDINBURGH, 23rd March 1921.

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## REPORT ON NET AND LINE FISHING.

By the SENIOR ASSISTANT INSPECTOR.

The year under review was one of varied experience, and did not produce such satisfactory results as were generally looked for. At its commencement the catching power of the industry had been re-established, but distribution was by no means restored to the position held prior to the war. To judge from the present outlook, considerable time will be required to bring the industry back to anything approaching its pre-war condition.

The chief difficulties during the year were the excessive working expenses, including the heavy cost of transport of material and workers, the general slump in trade, and the continued closure of the best



markets for cured herrings. The herring trade was certainly in a very precarious condition, and had it not been for the Government guarantee a disastrous time would have been experienced.

The winter herring fishing on the North and North-West Coasts of Scotland fortunately yielded fairly satisfactory results, and the landings in Wick district constituted a record. The summer herring fishing was disappointing, as the catches in general were light, and few fishermen or curers ended the season without loss. Late in the season a fishing was conducted for several weeks at Barra and other West Coast districts which for both fishermen and curers participating was no doubt the most satisfactory business of the year.

Owing to the minimum price fixed for fresh herrings coming under the guarantee, the average per cran was much in excess of that of 1919, but herrings were about the only kind of fish which realised a better price than in the previous year.

To Scottish fishermen and shore workers the very prosperous season at East Anglia gave great satisfaction, coming as it did after the disappointing results of the summer fishing, but only the Guarantee scheme rendered success possible.

Owing to the increased cost of bait and labour employed for baiting, there has been a considerable decline in the number of boats and men employed at small-line fishing. Consequently seine-net and hand-line fishing received greater attention, and in some districts herring fishing also was more extensively engaged in.

So long as war prices for fish prevailed, all branches of fishing were remarkably remunerative, but conditions have greatly changed, and in some districts where small motor craft were procured during the war in considerable numbers, a number of these have now been discarded. Large motor boats adapted for herring fishing are now proving less valuable, and a goodly number were not fitted out for fishing last summer, while not a few were converted into cargo vessels, and some were sold to foreign countries. In the course of the year twelve belonging to Buckie district were lost, seven being burned, four foundering, and one being wrecked at the harbour. Despite all the wastage that took place, the catching power of the herring fleet was well maintained by the addition of Admiralty drifters disposed of by the Board on favourable terms to ex-service fishermen.

#### *Eyemouth District.*

A very satisfactory year was experienced, and the quantity and value of all classes of fish were slightly in excess of those of the previous year. In the month of June a moderate herring fishing was secured, while throughout the late season a fleet varying from 130 to 270 vessels conducted operations, with fair results. Line fishing shows a decline. The average earnings of district steamers at the East Anglian fishing were £1963, and of motor boats £990, while the highest earnings for steamers were £2700, and for motor boats £1460. There was little change in the means of capture.

#### *Leith District.*

The results obtained during the year were generally satisfactory, and the fishermen of the district are now about as prosperous as they were prior to the war. The number of motor yawls was increased by 22, but sailing boats are now almost out of use. Herring fishing in the

Firth of Forth was prosecuted by about 100 craft, but without great success. Steam drifters and motor boats to the number of 22 prosecuted the summer herring fishing on the Scottish Coast, although they unfortunately did not meet with great success, but at the English ports they did fairly well. Disappointing results were obtained at the sprat fishing in the district, as the fish disappeared quickly from the grounds. Line fishing was not prosecuted to any great extent, being in a measure superseded by seine flounder netting.

*Anstruther District.*

There was a slight increase in the quantity of fish landed in the district, but a considerable decline in value. Heavy landings of sprats and the resumption of herring fishing accounted for the increased catch. In the number of vessels there was a slight increase, although the decline in the number of sailing craft is very apparent. The most important fishing of the district was the winter herring fishing, at which 2 steamers and 90 motor boats were employed. Compared with the previous year the catch showed a decrease in quantity and value. Cod-net fishing was disappointing owing to unfavourable weather and scarcity of fish. Great-line fishing was prosecuted by steamers and 1st class motor boats, whose takes were generally landed at Aberdeen and Shields. Earnings varied from £1275 to £3000. At the East Anglian ports 40 steamers and 45 motor boats prosecuted the herring fishing. Steamers' earnings ranged from £804 to £3037, and motor boats' from £862 to £1500.

*Montrose District.*

Practically no herring fishing was conducted in the district, and fishing generally was not too prosperous. Line fishing was not very remunerative owing to the limited takes obtained, the high cost of bait and of the labour required for baiting lines, and the high cost of working motor craft; and these conditions led some fishermen to seek other employment. Sprats were taken in the Tay estuary, but met with little demand, and consequently were chiefly disposed of for manure. Fishermen employed at crab and lobster fishing were well remunerated.

*Stonehaven District.*

A trial was made at herring fishing by three motor yawls, but herrings were found scarce and of poor quality. The average price was 64s. 3d. per cran, and crews earned from £130 to £184. Fishing in the district was largely confined to small lining in motor yawls, the results of which were disappointing. In the winter and spring unfavourable weather was experienced. Motor yawls were not so remunerative as when war time prices were realised, and earnings would only provide a very bare living for fishermen. For the year motor yawls earned £790 to £1600 or an average of £1100, while expenses averaged £400. Sail boats with crews of three men earned £260.

*Peterhead District.*

Landings of fish in the district showed a decrease in quantity but an increase in value, which is accounted for by the price paid for herrings. As in most other districts, the results obtained were not what could have been desired. The number of barrels of herrings cured was 20 per cent.



under that of 1919, and all the curers sustained loss on the season's work. At this port there were 107 buyers of fresh herrings, and the fleet engaged at the height of the season numbered 282. Prices of 45s. to 80s. or an average of 55s. 6d. per cran were paid for herrings, and steam drifters earned from £1000 to £2400 for the season. A fleet of 120 craft (115 steamers and 5 motor boats) proceeded to the East Anglian ports to prosecute the herring fishing, at which the steamers had average earnings of £1400 and motors of £830. Sixty-seven pickling firms from the district did business at Yarmouth and Lowestoft.

*Fraserburgh District.*

In this important district the Summer Herring Fishing did not come up to expectations. Well nigh three-fourths of the catch was secured by the 24th July, and during the latter part of the season the results were very discouraging. Owing to the high working expenses the net earnings were not great, and it is doubtful if fishermen had an ordinary wage for their labour during the weeks they were employed. For steam drifters the season's average earnings were £1100, for motor boats £700, and for sail boats £400. The prices paid for herrings varied from 45s. to 55s. per cran. Of the catch 58 per cent. was cured, 25 per cent. kippered and tinned, and 17 per cent. freshed. On the West Coast a number of district crews prosecuted the great-line fishing with fair success, but at home this method of fishing proved less satisfactory owing to difficulties in securing bait. An increased number of crews were employed at small-lining, and the quantity of small-line fish landed was greater than in the previous year, but the value was less. A fleet of 135 vessels belonging to the district took part in the herring fishing at Yarmouth and Lowestoft and secured gross earnings of £166,335.

*Banff District.*

The Summer Herring Fishing was prosecuted with success by a fleet of 20 motor craft, while steam drifters belonging to the district landed takes at the week ends. One sail boat also was employed. The average price for the season was 51s. per cran, and business undertaken by the curers did not produce a profit. From the district a fleet of 84 steamers and 12 motor boats proceeded to the East Anglian ports to pursue the herring fishing. Steamers had earnings of £880 to £1980 and motor boats of £600 to £1100. At some periods of the year small and hand line fishing was extensively engaged in.

*Buckie District.*

For herring catching power this district, despite the losses suffered during the war, still holds the premier position in Scotland. There was a good increase in the landings during the winter herring fishing, when drifters earned from £400 to £2300 or an average of £1100. Cod-net fishing was prosecuted with similar results to those of 1919 as regards quantity, but there was a large decrease in the value realised. The catch of summer herrings was less than that of the previous year, and quality was varied and inferior. At the East Anglian fishing 270 steamers and 90 motor boats were engaged. Earnings of steamers were £500 to £2800 or an average of £1350, while motor boats averaged £910. Little attention was bestowed on small-line fishing.

*Findhorn District.*

The number of vessels at work from this district was the greatest since 1914. There was a decline in the quantity of fish landed, which was due to the failure of the small herring and sprat fishing in the Inverness and Beaully Firths, and also to the decline of line fishing. Crews engaged at the prosecution of the Winter Herring Fishing met with fair success, and steamers had earnings of £500 to £1500 and motor boats of £400 to £900. The small herring and sprat fishing at Inverness did fairly well in the opening months of the year, but was a complete failure during the latter months. Poor results were obtained at cod-net fishing, at which crews' earnings ranged from £200 to £500. At Yarmouth and Lowestoft crews had earnings of £800 to £2800.

*Cromarty District.*

Crews of this district that were engaged at the sprat and small herring fishing had a disappointing season on account of the scarcity of fish. In the month of March cod-net fishing was engaged in by district crews with fair success. Cod were usually sold at 2s. to 6s. each. Small-line fishing was not so successfully prosecuted as was the case in 1919. From February to April good supplies of plaice were caught on small lines. An Avoch crew acquired a steam drifter and had a successful season at Lowestoft.

*Helmsdale District.*

No herring fishing was conducted in this district. There was a slight decrease in the quantity of fish landed, while prices were under those of the previous year. Increased quantities of shell fish were landed. Cod-net fishing yielded much less than in the previous year, while the value was less than half. Some of the district fishermen emigrated to the Colonies and America.

*Lybster District.*

Small and hand line fishing was chiefly followed by the fishermen of this district, and fish were found fairly abundant, especially during the last quarter of the year. In the month of August herring fishing was commenced in Latheron Bay, and was continued for about five weeks, during which time crews earned from £15 to £400. There are now in the district two kippering establishments, from which there is a good output.

*Wick District.*

The winter herring fishing in this district was a record one. A fleet of 140 steam drifters and 24 motor boats was engaged, and operated chiefly on the North Coast. Prominent features of the season were the great number of heavy individual takes and the high daily averages. The highest take was 227 crans, and on one occasion 29 craft averaged 84 crans. The season's catch was 55,088 crans of the value of £144,958, and prices ranged up to 98s. per cran, averaging 52s. 7½d. The bulk of the catch was kippered and freshed, and to kipperers and freshers the season was fairly profitable, even although the markets fluctuated considerably. Cod-net fishing was not carried on to any great extent. Nine local crews operated for five weeks, and attained moderate success.



For about a month from the middle of May the early herring fishing was successfully pursued from Scrabster by over 50 vessels. During the last week of June the summer fishing was commenced at Wick by a fleet of 244 vessels, which increased to 275. The results obtained at Wick were possibly more satisfactory than at any other East Coast port. Local steamers had earnings of £915 to £2132, motor boats of £650 to £2091, and sail boats of £375 to £500. At the East Anglian fishing 15 steamers and 14 motor boats were engaged, and earned from £500 to £1535 or an average of £913.

*Orkney District.*

Herring fishing is the most important branch of the industry prosecuted in this district. It may be said to have been revived during the year, as it was suspended during the war, and only a little was done in 1919. Stronsay was the only fishing centre, and here fourteen firms were engaged at curing, employing altogether 146 crews of female workers, being about two-fifths of number employed in 1914. The fishing opened well, but unfortunately the success was not maintained, and the season ended with a short catch, fish not being located on the usual grounds. Prices of 45s. to 57s. 3d. per cran were paid. The season's earnings of steamers were £500 to £1100, of motor boats £400 to £1050, and of sail boats £280 to £605. Line fishing was not pursued to any great extent, and the results show a decline, but an increased catch of lobsters was secured.

*Shetland District.*

While the winter herring fishing was being prosecuted off Flugga stormy weather was experienced, and although fish were abundant the venture did not prove a remunerative one. At Lerwick the summer herring fishing was opened with a fleet of 350 vessels. Fish were not met with on the usual grounds, and the best takes were secured off Baltasound. Generally steamers did little more than clear expenses, while many steam, motor and sail craft had a debit balance. To curers it was not a profitable season, and female workers had poor earnings. Steamers earned £750 to £2500, motor boats £400 to £1100, and sail boats £150 to £700. Great-lining was not conducted so extensively as usual, but haddocks were fairly plentiful, and small-lining was extensively engaged in, although the prices received for the fish when consigned to Aberdeen were frequently disappointing.

*Stornoway District.*

As a herring fishing port Stornoway is not maintaining its former position. The mainland ports at the railway termini are now more popular with business firms, especially those who fresh extensively, since fishing craft with steam or motor power can proceed to these ports where their catches can be marketed to the best advantage. There was not an abundant winter herring fishing, and the fish caught were generally of indifferent quality. All the catch was kippered and freshed. Loss of netting was of frequent occurrence. No great preparations were made for conducting the summer herring fishing, and consequently some trouble was experienced owing to a shortage of labour. The season's catch was 30,208 crans, valued at £75,209. Local steam drifters earned from £1700 to £2800, motor boats from £700 to

£1600, and sail boats from £400 to £1340. Men who served as hired hands on the East Coast had poor earnings. At some of the creeks lobster fishing was successfully prosecuted, but prices were not always remunerative. Great-lining was not followed to any great extent. The canning factory and ice works, which are being erected at Stornoway, are well advanced.

*Barra District.*

There was a considerable increase, chiefly attributable to herrings, in the quantity and value of fish landed. In the early summer poor results were obtained at herring fishing, although East Coast crews had a very successful time for some weeks in the later part of the season, when steam drifters had earnings of £1000 to £2300. Some local crews who owned their own boats had a successful year's work, but boats owned by merchants and worked by hired crews did not pay. Twelve herring curing stations were opened, and curers had a remunerative season.

*Loch Broom District.*

On the northern sea board of this district great quantities of herrings were caught, but as there are no railway facilities in the district they were landed elsewhere. No regular herring fishing was conducted at any of the creeks. Cod-net fishing at Gairloch was disappointing, but line-fishing improved, and lobster fishing was successfully prosecuted. For some years there has been no herring fishing in Loch Broom, and the absence of herrings has led to the selling of a good number of the better class boats.

*Loch Carron and Skye District.*

Kyle is the most important creek in this district, but at no time either in summer or winter was there much of a fleet operating from it, and such herrings as were landed were delivered chiefly by East Coast crews, although during the year the number of visits was less than usual, and there was a considerable reduction in the quantity and value of herrings landed. Two kippering establishments were in use for both the summer and winter seasons.

*Fort William District.*

The returns for the district show a considerable decrease in the quantity and value of fish landed. Oban and Mallaig were very busy centres during the war and for some time after the signing of the Armistice, but they now appear to be falling back to their pre-war position. Stormy weather hindered the winter herring fishing, while the importation of Norwegian herrings caused a slump in prices, and brought it to a premature close. In the summer herring fishing and also in the line and lobster fishings landings were far less than in the preceding year.

*Campbeltown District.*

An increased quantity of net and line-caught fish was landed in the district, but the value was very little in excess of that of 1919. Some of the district crews prosecuted the summer herring fishing successfully at Mallaig, and in the last quarter of the year they also did well in Lochfyne. During the spring a number of East Coast crews landed good takes of great-line fish at Campbeltown.



*Inveraray District.*

The year's work produced very satisfactory results, and the landings show an increase as compared with 1919. Herrings constituted the bulk of the catch, which was the highest since 1901. The greatest success was attained in January and during the last quarter of the year. Some of the herrings were cured for the home markets.

*Rothsay District.*

Herring fishing in the Kyles of Bute was practically a failure, which accounted for the very disappointing landings made in the district. Fishermen now devote most of their attention to herring fishing, with the result that line fishing is declining. All classes of fish decreased in value.

*Greenock District.*

The importance of the fisheries of this district has been declining for some years. The fishermen of the district bestow their attention chiefly upon herring fishing, and during the year the fleet conducted operations in Lochfyne and Kilbrennan Sound. Line fishing was not engaged in to any great extent. Most of the cured herrings that were exported *via* Glasgow were sent to America, Canada and Ireland, while Spain, Australia and the West Indies received most of the cod fish.

*Ballantrae District.*

To the fishermen of the district the year was rather disappointing. Working expenses were high, and the prices realised for fish were much under war-time rates. Unfavourable weather in the early part of the year hindered the herring fishing, and although for some time herring fishing was pursued on the Ballantrae banks, no great success was attained. At none of the fishings engaged in were satisfactory results obtained. The kippering of herrings in the district was extended.

JAMES RITCHIE,

*Senior Assistant Inspector.*

EDINBURGH, 23rd March 1921.

FISHERY OFFICERS' REPORTS.

*Eyemouth District.*

As is usual under normal conditions, the majority of the fishermen of this district were steadily employed in the prosecution of their calling, either at home or on other parts of the coast, during the greater part of the year, and the results of their labours were, on the whole, considered very satisfactory.

The total landings of white fish in the district amounted to 72,204 cwts. valued at £61,554, and the value of shell fish was £8771; as compared with 64,836 cwt., £63,007 and £4280 respectively in the preceding year.

There was no material change in so far as the number of registered fishing boats and vessels was concerned. Steam drifters and liners remained the same; motor boats showed a decrease of 1, and sailing boats a decrease of 6, as compared with the figures for 1919. Owing to the demand for the different classes being less keen than was the case for the past few years, and also allowing for depreciation, there was a considerable drop in the value of vessels belonging to the district.

The winter herring fishing in the Firth of Forth and home waters was disappointing, and some of the crews did not clear their working expenses.

In the early part of the year most of the steam drifters prosecuted the herring fishing at Stornoway and Mallaig, and 4 motor boats were engaged at Stranraer, chiefly with cod-nets and greatlines. The results on the whole were fairly satisfactory.

The fleet of steamers was subsequently employed in the prosecution of the greatline fishing—chiefly from North Shields—from which the fishermen derived a fair amount of remuneration.

The summer herring fishing commenced at North Shields and Eyemouth early in May, and became general in the district by the beginning of June. During the week ending 19th June the fishing was a complete blank at most of the stations as the fishermen remained ashore, pending a settlement of the Government Guarantee Scheme, which was then under consideration.

Up to the end of June quite a moderate fishing, 12,724 crans, value £52,599, was landed at the various stations from North Shields to Eyemouth. The quality of the herrings was not such as to permit of curing, but quite a healthy business was done in kippering and supplying the fresh markets.

Fishing operations were actively continued, by a fleet of from 80 to 200 steam drifters and 50 to 70 motor boats, till the closing of the Government Scheme on 21st August, after which the number of vessels gradually diminished. Yet from that date to the end of September several of the boats did remarkably well, and the catch for that period was 24,303 crans valued at £55,148, and would undoubtedly have been considerably greater but for the fact that curing operations were suspended, as the curers had no prospects of finding markets for the cured article.

The season was practically brought to an end on the 18th September.

The total landings for the season in the English section of the district were 69,561 crans, valued at £194,591, and, in the Scottish section, 17,152 crans, valued at £45,269.

Prices ranged from 6s. to 20s. per cran, with an average of about 55s. 4d. per cran, as against 45s. 4d. in 1919.

Compared with the previous year, the above figures exhibit a decrease of 4346 crans, but an increase of £33,448. With the exception of a decrease of 15,056 crans at North Shields, there was an improvement in the landings of all the stations in the district.

The fishing grounds were over a wide area, 5 to 65 miles offshore, but the principal waters fished were from 10 to 20 miles N.E. and S.E. of the Farne Islands.

Curing operations were carried on at all the stations at which herrings were landed, but chiefly at Spittal and Eyemouth. Kippering was also carried on throughout the year, supplies of fresh herrings being brought from other parts of the coast when not obtainable locally.

Only one part cargo of cured herrings was shipped direct to the Continent, and a few hundred barrels of unbranded herrings were railed to Leith for export.

As most of the fishermen gave so much of their time and attention to the prosecution of the herring fishing, it is not altogether surprising that the results of the line fishing by motor and sail boats were not so satisfactory as could be desired.

The total landings amounted to 8685 cwts., valued at £13,858, as compared with 13,752 cwts. and £29,906 in 1919.

The average price per cwt. was 31s. 11d. as against 48s. 1d. last year.



Comparatively few trips were made to the offshore grounds, operations being chiefly carried on within 10 miles from land.

Greater attention was given to the crab and lobster fishing, with the result that the catch and value were more than double those of the previous year.

One of the local steam drifters, equipped as a trawler, engaged in trawling operations with a fair measure of success during the spring of the year. The ports of landing were Granton, Eyemouth and North Shields.

Coopers were fairly well employed at barrel making during the spring and early summer and, subsequently, in connection with curing and kippering operations at home and at Yarmouth.

Only one motor boat was built in the Scottish section of the district, but boat-builders were kept busy installing motor engines into sail boats and attending to general repair work.

Two boats prosecuted the summer herring fishing on the Irish coast, and 42 crews participated in the autumn herring fishing at Yarmouth. At both fishings the crews were fortunate in doing well, the average earnings per boat at Ireland being £1325, and at Yarmouth for steam drifters £1963 and for motor boats £990. The highest earnings at the latter place were for a steam drifter £2700 and for a motor boat £1460.

Some crews suffered considerable loss in gear, while others were much more fortunate, in this respect. It was estimated that the total loss and damage over the fleet would amount to £3000.

As stated in the introductory paragraph of this report, the district fishermen had no reason to complain of their earnings during the year. In normal times these would have been considered exceptionally good, but the present high cost of gear and other heavy working expenses connected with the running of steam drifters and motor boats reduced the net profits very considerably. However, taken all over, the year's results turned out much better than might have been expected.

The Government Guarantee Scheme served the purpose for which it was intended. Fishermen were practically assured of getting value for the herrings they landed, and curers were also assured of getting their cure taken off their hands without suffering any loss. But for the existence of the scheme it is certain that fishermen would have been obliged to accept smaller prices whenever the supply of herrings exceeded the demand for freshing and kippering, and it is doubtful whether curers would have risked curing any great quantity even at a much reduced figure. Kipperers and freshers, however, although they frequently paid high prices for their herrings, did not appear to be at all satisfied with the scheme, because, while practically compelled to pay at least the minimum price, they had no guarantee as to what they might receive in return.

The position of the herring fishing industry is meantime very unsatisfactory, and it is difficult to see a way out.

Some curers are of opinion that it might be possible to arrange some system of barter with the Continent, while others are hoping that the trade may adjust itself so as to allow of at least a certain amount of business being done. It is also hoped that, by next season, some improvement may be brought about in the rate of exchange, which would go a long way in solving the difficulties.

WM. NISBET,  
*Fishery Officer.*

FISHERY OFFICE,  
BERWICK, 15th January 1921.

*Leith District.*

The fishing industry in this district during the year 1920 was energetically carried on, and the results were generally satisfactory. So far as the trawling branch was concerned, the most notable feature was that during the latter half of the year in particular trawlowners had not a remunerative period, although fish were by no means scarce. This was caused mainly by the poor prices which ruled for small haddocks, the high costs of all materials required for trawling, and the increased wages of the crews.

The quantity and value of trawled fish landed in the district last year were the largest in its history, amounting to 443,294 cwts., and £531,731, while the total quantity and value of white fish caught by all methods of fishing were 499,230 cwts., and £607,778, exclusive of shell fish, the value of which was no less than £10,191. These figures establish a record for this district, and they are a tribute to all connected with the industry, through whose energy and enterprise the fisheries are again as fully developed as before the war.

The year's average price of all kinds of white fish caught by all methods was 24s. 4d. per cwt., as against 36s. 7d. for the year 1919, while trawled fish realised an average price of 24s. a cwt., as compared with 36s. 3d. in the previous year.

Increases of 12 trawl vessels and of 22 motor boats, were the chief features of the means of capture returns. The day of the sailing fishing boat among *bona fide* fishermen is fast drawing to a close in this district; as a matter of fact few if any proper fishermen will now go to sea in a boat unless it is propelled by steam or motor power.

The trawl fishery was pursued with much vigour, but both the strike of skippers and deck hands which occurred at the close of 1919 and was not finally settled until the 19th of January last, and the coal strike in the autumn, had an injurious effect on this, the chief branch of the district fisheries. A settlement of the fishermen's dispute was effected through the concession by owners of increases to the crews. As regards the miners' strike, a rationing of coals on the basis of 50 per cent. of normal supplies kept alternate halves of the fleet employed.

The average number of trawlers at work during the year was 70, as compared with 40 in the preceding year. Twenty different firms of fish salesmen acted for these vessels. While several of the largest sized trawlers worked about 100 miles off in the North Sea, the local trawling fleet can nevertheless be termed an inshore one. The favourite fishing areas of the boats working in the distant waters lay off Buchan Ness and Rattray Head, and the range of their catches was from 100 to 390 cwts. for voyages of an average duration of 4 days. The inshore craft usually fished from 5 to 35 miles in various directions off the May Island, Bell Rock, Bass Rock and St. Abbs Head, and the range of their shots was from 38 to 210 cwts. for trips of from 2 to 4 days' duration. Haddocks accounted for 55 per cent. of the total catch, but fully 30 per cent. of the haddocks landed consisted of the extra small selection, locally called "Seed," and for these unremunerative prices had frequently to be accepted. It was a common experience at Newhaven market during the summer for hundreds of boxes of these small fish to be sold at the nominal price of 2s. a box, and on several occasions large quantities had to be disposed of to the local manure factories at 9d. per box. The quantity of fish sent to Glasgow direct from Granton last year was 202,817 cwts., being equivalent to 46 per cent. of the total trawl catch for the year.

A few boats engaged in trawling for herrings on the Dogger Bank in



September and had fairly good success, the total quantity and value of their catch for 10 trips being 567 crans and £2256. These herrings were of fine quality and met with a keen local demand. A larger number of the best trawlers might profitably take part in this method of catching herrings in the autumn. The herring fishing in the Firth of Forth, which at one time was an important fishery, was not prosecuted with good results last season. It was carried on from January to April by a fluctuating fleet of about 100 boats, and the largest part of the catch was landed at Newhaven. The bulk of the catch was secured by seine net crews off Granton and in the vicinity of Aberdour and Inverkeithing. The drift net is yearly becoming less used in the Firth of Forth, mainly on account of the difficulty of working drift and seine nets together in such narrow waters. All the herrings were sold for consumption in a fresh state, and the maximum controlled price of 98s. a cran was realised for almost the whole of the catch. A compulsory rationing scheme had to be introduced at Newhaven, which was supervised by the Board's Officer.

The number of steam drifters and large motor boats belonging to this district which engage in the principal Scottish and English herring fishings is now small, numbering only 22 boats last year.

Their earnings at the Scottish fishing were poor owing to the short and unsatisfactory season, but they all did moderately well at the East Anglian fishing.

There were good prospects of a sprat fishing setting in during the autumn in the upper reaches of the Firth of Forth, but the fish remained in these waters for only a few weeks. Practically all the catch, 1109 crans, was secured in Bo'ness dock. There was a brisk demand at Newhaven for these fish for exportation at prices ranging from 26s. to 30s. a cran, and had they remained longer in the Firth of Forth the fishermen would have reaped a rich and much needed harvest.

The district line fishery continues to be of minor importance, and the only creeks at which this method received much attention were Dunbar and Cockenzie.

Seine net fishing for flat fish under Bye Law No. 31 was chiefly engaged in from Cockenzie. For 1249 landings the total catch was 4424 cwts., value £8385, as against 835 arrivals, 1977 cwts., and £5506 for the previous year.

The crab and lobster fisheries of the district are important and were engaged in with success from Cockburnspath, North Berwick and Dunbar.

As a result chiefly of the monopoly established by the German Government in connection with the importation of cured herrings, and also of the high freight, namely 12s. 6d. a barrel, from Leith to Hamburg, the shipments of cured herrings to that port were comparatively light, amounting to only 18,547½ barrels. On the 15th of December last, however, the monopoly was abolished, and simultaneously the freight was reduced to 5s. 6d. per barrel. These two factors had an immediate salutary effect, as large shipments of matjes from the cold stores at Glasgow were exported to Hamburg.

The number of barrels of cured sprats exported was 1521, chiefly to Gothenburg.

The exportation of dried fish was regular throughout the year, Spain being the principal market. The export totalled 40,647 cwts., being practically the same as for 1919.

The importation of partially-cured cod, etc. into Leith from Iceland and Faroe was again large, amounting to 147,872 cwts., as against 161,060 cwts. in the year 1919. The largest proportion of these fish were

railed from the vessel side to such centres as Aberdeen, Hull and Grimsby for drying purposes.

The number of quarter-cran baskets branded last year was 15,321, being 3341 baskets less than in the previous year. Owing to the comparative failure of the Scottish herring fishing there was not such a keen demand for these measures as was the case in the preceding season.

Few steam fishing vessels were built, a fact which is explained by the high costs of building, and also by the presence on the market of so many Admiralty trawlers and drifters. Moreover, the not over-bright prospects of the fishing industry checked the enterprise of likely clients for vessels of this type.

The Dock Commissioners have not yet finally decided when they are to begin the long contemplated extension scheme at Newhaven harbour. Such extension is much required, and until it is completed there is not much scope for the probable further development of trawling in this district. A number of the trawlowners favour a scheme for the extension and improvement of Granton as the centre of trawling, and in this connection the Commissioners are at present considering whether they will purchase the harbour there or not.

Although the weather during the year was generally rather stormy, especially during the latter three months, there were fortunately no lives lost from fishing vessels, and the loss of and damage to vessels and gear were not specially heavy.

The Government Herring Guarantee Scheme did not affect this district to any extent, as practically no herrings were cured within its limits last year.

One phase of the fisheries which calls for comment is that while fish were frequently selling cheap at Newhaven market, the public did not seem to benefit to any appreciable extent in the reduction of prices at the retail shops.

It is somewhat difficult to express a definite opinion respecting the future prospects of the industry in this district. Meantime the outlook is none too promising for trawlowners, owing to the rather low prices generally received for fish, combined with heavy working expenses. Fortunately steam coal is becoming cheaper, but until wages and other outlays decrease, the profits to be made out of trawling will be small. One fortunate feature, however, is that Newhaven and Granton are very favourably situated for the distribution of fish, therefore there is invariably a brisk demand at the market for fish of good quality.

FREDERICK S. FRASER,  
*Fishery Officer.*

FISHERY OFFICE,  
LEITH, 19th January 1921.

#### *Anstruther District.*

The total quantity of white fish landed in this district during the year 1920 amounted to 62,771 cwts. valued at £66,813, and when compared with the totals of the year 1919, these figures show an increase of 13,080 cwts. in the quantity, but a decrease of £25,731 in the value. This satisfactory increase in the quantity was chiefly attributable to heavy landings of sprats during the first two and last two months of the year, and to the resumption of the summer herring fishing, which was



practically suspended during the previous year owing to a strike among local fishermen. There were, however, considerable differences in the landings of other kinds of fish, the most prominent being a decrease in the landings of cod to the extent of 2089 cwts. in the quantity, and £12,336 in the value, and increases of 2322 cwts. in the quantity, and £934 in the value of haddocks.

The great decrease in the total value of white fish landed during the year was due chiefly to the general decline in prices of all fish, as shown by the following statement comparing the average values per cwt. for the years 1920 and 1919 of the principal kinds of fish landed:—

	1920.		1919.	
	s.	d.	s.	d.
Herring . . . . .	15	9	35	4 <sup>3</sup> / <sub>4</sub>
Cod . . . . .	28	11	42	2 <sup>1</sup> / <sub>3</sub>
Haddocks . . . . .	37	7	41	3 <sup>1</sup> / <sub>2</sub>
Plaice . . . . .	42	9 <sup>1</sup> / <sub>2</sub>	44	3 <sup>3</sup> / <sub>4</sub>

The most prominent feature in the Means of Capture Returns was the decline in the number of sail boats belonging to the district, due to the fitting of boats with motor power, or their sale out of the district. Two first class and 8 second class sail boats were fitted with motor engines, and 1 first class (from 30 to 45 feet keel) and 3 second class motor boats were built for owners within the district. The fleet of motor boats did not, however, show a corresponding increase, as 2 of the first class were converted into cargo vessels, 3 first class and 1 second class motor boats were unfortunately lost, and 2 first class were sold out of the district. The number of steamers belonging to the district is 1 less than during the previous year, but this decrease will doubtless be made good during the ensuing year by the purchase of Admiralty drifters.

The winter herring fishing, the most important fishery of the district, commenced on the 10th of February, and was prosecuted by a fleet of 90 motor boats and 2 steam drifters until towards the end of March. Herring were, however, scarce throughout the whole season, and the total catch amounted to only 4113 crans valued at £12,378, as against 5009 crans valued at £31,487 for the corresponding period of the previous year.

Owing to stormy weather and scarcity of fish the cod net fishing was again disappointing. The season's catch amounted to 4569 cwts. valued at £7485, compared with 5037 cwts. valued at £13,416 for the year 1919.

The great-line fishing was eagerly prosecuted by the district steamers and first class motor boats during the spring and early summer of the year under review. These boats usually landed their catches at Aberdeen or Shields, only an occasional small shot being landed in this district by boats home for week-ends. Owing to the failure of the winter herring fishing and the poor prospects for the early summer herring fishing the season was prolonged, and the boats secured satisfactory earnings of from £1275 to £3000 gross.

The majority of the Fifeshire fishermen operate from the northern Scottish ports during the summer herring fishing, and the herrings landed in this district are made up largely of catches delivered at the week-ends. Towards the end of the season, however, a few steamers and motor boats fished regularly from Anstruther and were fairly successful. At the end of August these vessels had catches ranging from 80 to 150 crans from the Longstone fishing grounds, but as the

Government Guarantee had expired there was no demand for such catches in the district, and the steamers had to leave for Aberdeen and Peterhead with their shots.

Four local curers accepted the terms of the Government Guarantee and carried on curing operations. The total quantity landed for the season amounted to 2862 crans, of which 2837½ barrels were cured and handed over to the Government, while 68 barrels were cured outside the terms of the Guarantee, and the remainder was freshed or kippered. Only on one occasion was it necessary to rouse herrings, and the fishing fleet was never detained in harbour. With the exception of 24 barrels, all the herrings cured during the operation of the Scheme were accepted under the Guarantee, and of the total cure 2759½ barrels were branded Grade 1, and 78 barrels Grade 2. With the exception of 50 crans roused at 40s. per cran, prices ranged from 45s. to 58s. per cran up to the 21st of August, but after that date they ranged from 20s. to 65s. per cran. The greater proportion of post-Scheme herrings was freshed or kippered, only 44 barrels being cured, for customers, by a local fish merchant.

The codling and plaice net fishing, carried on chiefly in St. Andrew's Bay, was vigorously prosecuted throughout the early and latter months of the year, but the weather was stormy and fish appeared to be scarce. Although the catching power was considerably increased by the installation of motor engines into 7 small sail boats, and by the addition of 1 new motor boat to the fleet at St. Andrews, net caught plaice show a decrease of 105 cwts. in quantity and £228 in value as compared with the previous year.

Small-line fishing was regularly carried on at the various creeks of the district by small sail and motor boats. Owing to the high cost of oil fuel and the decline in the prices of fish, the net earnings of crews of motor boats were not so satisfactory as they were during the previous year.

Crab and lobster fishing is becoming more popular with the fishermen situated near suitable grounds. During the past year the value of shell fish landed amounted to £8316, being an increase of £2118 as compared with the previous year.

Of the local fleet, 40 steam drifters and 45 motor boats participated in the East Anglian autumn herring fishing, which proved a successful season to most of the fishermen. The earnings of the steam drifters ranged in the extreme from £804 to £3037, but the majority ranged from £1272 to £2550, while the motor boats had earnings ranging from £862 to £1500. The fishing on the English coast was carried on under very favourable weather conditions, so that the loss of gear was less than usually experienced.

It is estimated that the loss on fishing gear during the past year amounted to £1739. Crab and lobster fishermen suffered heavy losses of creels by a gale at the end of October.

Of the 4 motor boats lost during the year, 1 was burnt at sea, and the other 3 were wrecked during fog. Happily these disasters were not accompanied by loss of life, although a district fisherman was unfortunately drowned in Yarmouth harbour.

The prospects for the ensuing year are, as yet, somewhat uncertain for the herring fishing communities. The Fifeshire fishermen, however, depend largely on the great-line fishing, and it is highly probable that many of the steam drifters and first class motor boats may continue at great-line fishing in preference to starting a doubtful summer herring fishing.

Most of the small-line fishing boats have now been fitted with motor



engines, so that supplies of small-line fish are fairly regular. At Pittenweem, the leading port, there is a daily market, where fish merchants from inland towns attend with motor lorries and purchase their daily supplies. Although prices vary considerably, this is an outlet for fish which may be relied on, and which may perhaps improve, and with fair prices the prospects for this district are hopeful.

WM. S. MOWAT,  
*Fishery Officer.*

FISHERY OFFICE,  
ANSTRUTHER, 21st February 1921.

*Montrose District.*

There were several outstanding and, in some instances, disturbing features in connection with the fishing industry of this district during the year that has just closed. The results, taken as a whole, and so far as quantity of fish is concerned, were fairly satisfactory, but with the lower prices obtaining for all kinds of fish, and the high expenses incurred for every item necessary for the carrying on of the work, the monetary results for boat owners and fishermen were very moderate. The high cost of production, *i.e.*, for gear, oils, bait and baiting, has had a very depressing effect upon the herring and small-line fishing fleets, and a number of fishermen have gone in wholly for seine net fishing, or have obtained employment on shore, where, up to the present, work has been more regular and wages better. Difficulty was also experienced in obtaining labour for baiting lines, owing to the reluctance of female members of the fishermen's families to undertake what is considered dirty, laborious, and often unremunerative work. There were also occasional shortages in the supply of mussels for bait, and the quality of those obtained was often inferior. Numbers of fishermen were thus led into prosecuting seine net fishing, which, although carried on with a fair amount of success, and with less labour and expense, especially on shore, does not give such regular employment as does line fishing. Stormy weather, of which there were lengthy periods, restricted the operations of the various fleets, especially the line boats, whose total catch shows a large reduction, but trawl vessels with their greater sea going power were not so much affected. Although the catch of trawl fish shows a handsome increase, it is counterbalanced by the decrease in the landings by other methods of capture.

The total catch for the year shows a decrease of 538 cwts. in quantity and £41,423 in value compared with 1919.

The means of capture show considerable changes by an increase of 18 trawlers, a decrease of 2 steam drifters, 4 motor boats, and 33 sail boats, an increase in the total tonnage of 713 tons, and an increase in the total value of boats and gear of £252,301, due wholly to the trawlers. Seven motor boats were sold out of the district, 3 others had their engines removed, and 1 was not used as a fishing boat. On the other hand 1 sail boat had an engine installed, and 6 motor boats were built in or bought into the district, while 6 boats had their old engines replaced by new engines of the same or a greater h.p. All the engines fitted were of the "Kelvin" type.

The steam drifters and large motor boats belonging to the district took part in the great summer herring fishing at Peterhead. The steamers grossed up to £990 and the motor boats up to £830, but

expenses were high, and the average net earnings of the former were only £400 and of the latter £250. Eleven crews prosecuted the East Anglian herring fishing with a fair measure of success, the average net earnings being £740 for drifters and £350 for motor boats.

There was an abundance of sprats in the Tay Estuary during January, February, November and December, and heavy catches were landed at Dundee during these months, but owing to the plentiful supply of herrings from other ports no market could be found for these fish, and the whole catch was disposed of for manure.

Upwards of two-thirds of the district fishermen were employed at line fishing at different times during the year, and this important branch of the industry constituted the only source of livelihood for 50 per cent. of the fishermen; consequently its success or failure means a great deal to the welfare of the district. Spells of stormy weather and occasional shortages in the supply of mussels were mainly responsible for a large decrease in the catch. The landings of sail line fish were insignificant, and fell off by 46 per cent. compared with 1919. A fleet of 95 motor skiffs and yawls made 13,945 landings for a total catch of 51,309 cwts., or 3.6 cwts. value £6, 5s. 3d. per catch, against 15,235 landings and a total catch of 62,460 cwts., or 4.1 cwts. value £8, 12s. 7d. per catch for 1919. The average price was 34s. per cwt. against 42s. 1d. per cwt. for 1919.

Eight motor skiffs engaged in great-lining on the west coast, but although fish were plentiful prices were low, and the venture gave but poor wages for the period.

Greater attention than formerly was paid to seine net fishing. Eighty-two motor skiffs took part at different periods, and the total catch of seine net plaice and dabs increased from 929 cwts. in 1919 to 3550 cwts. for 1300 arrivals in 1920. The Gourdon fleet landed their catches during October and November at Aberdeen.

The produce of the shell fisheries of the district shows an increase in value of £2021. Gourdon, Johnshaven and Arbroath provide practically all the fishermen for lobster and crab fishing. No mussels were landed from the Tay, but there was an increase of 6074 cwts. dredged from the South Esk.

Trawl fishing operations were conducted mainly from Dundee, where the local fleet was augmented by vessels from other districts. The results were, on the whole, good, and would leave a fair margin of profit for all concerned. Landings were made principally from short trips of an average of 2.67 days to the fishing grounds in the vicinity of and from 5 to 60 miles E. and E.S.E. from the Bell Rock, while some good catches were got also from the waters off the Aberdeenshire coast. There was a total of 825 arrivals with an average catch of 93.7 cwts. value £122. The best fished boat grossed £12,000 for the year. The average price of trawl fish was 32s. 2d. per cwt. against 41s. 4d. per cwt. for the previous year. Landings of trawl fish at Montrose were confined to a few small shots, and occasional catches landed by Granton vessels to be railed to Glasgow for sale there.

There was no herring curing, but a large quantity of haddocks was smoked for retail purposes, especially at Arbroath. Most of the fish landed at Arbroath are sent off in a fresh state, but upwards of 2000 tons of trawled fish were brought from Aberdeen by rail for smoking and disposed of throughout Arbroath and district, providing employment for a considerable number of workers.

Barrel making is fast dying out, and only 1366 whole barrels were constructed at Montrose.

There were 1291 quarter cran baskets manufactured at Dundee.



Two steam drifters were built at Montrose and engined at Dundee, and a second class motor boat was built for local owners also at Montrose.

Fortunately there was no loss of life in connection with the various fisheries, but there was considerable loss of and damage to fishing gear, especially trawl gear.

As regards the future prospects of the industry in the district, small-line fishing is the only branch regarding which any doubt may be expressed. Seine net fishing will doubtless provide an alternative means of livelihood for the fishermen, but very much depends upon the continuance of the present downward movement in the prices of commodities if line fishing is to hold its own, a condition which also holds good in respect of the trawling industry.

JAS. MAIR,  
*Fishery Officer.*

FISHERY OFFICE,  
MONTROSE, 25th January 1921.

*Stonehaven District.*

In Stonehaven district the fishing industry was carried on with very unsatisfactory results. Operations were confined almost entirely to small-line fishing by motor boats, and the landings exhibit a decrease of 4748 cwts. in quantity and £11,864 in value when contrasted with those of 1919. The scarcity of fish and low prices obtained, combined with high prices of fishing material, oil, etc., as well as of mussel bait, have militated against the success of this branch of the industry. Fishermen, generally, have barely earned a living wage.

The weather conditions throughout the year were rather unfavourable for successful fishing, especially during the winter and spring months. On the favourite grounds off Tod Head the catches for a time did not even pay for the mussel bait used.

There is practically no change in the means of capture, the fleet remaining similar in every respect to that of the preceding year. The success which attended motor boats during the war seems to be on the wane, and local fishermen are beginning to wonder if these will continue to be a paying speculation. It is considered probable that the boats may pay fishermen owners, but it is very doubtful if they will continue to pay shore owners. There is no demand for these boats, even at reduced prices. Heavy supplies of trawl fish have a great effect in keeping down the price of live line fish, so that the earnings of the line fishermen are at times disappointingly low.

There were 19 motor yawls regularly employed at the small-line fishing. The earnings realised by these boats for the year ranged from £790 to £1600, averaging about £1100 for a boat with four of a crew, while the working expenses amounted to about £400 per boat. Hard work and drudgery are entailed, both to the fishermen and to their families, by this method of fishing, and those engaged are poorly compensated for their labours. Fishermen who have no family are paying at the rate of £1 per week for the baiting of lines, so that they find a difficulty in getting ends to meet. About half a dozen sail boats were engaged in small-line fishing, and their earnings would average about £260 for a crew of three men.

A good many occasional fishermen are employed at Stonehaven during the summer months at hand-line fishing for codlings and

mackerel. They did fairly well, as their catches find a good market with the visitors in the district at that period.

For the first time since the war a trial was made at the herring fishing by three of the largest motor boats at Stonehaven. These boats, after continuing the fishing for six weeks, were obliged to revert to line fishing because of the scarcity of herrings off the district coast. The best fished boat grossed £184, and the other two about £130 each.

With the exception of Catterline, the crab fishing was not carried on to any extent at any of the district creeks. Generally speaking, the Catterline fishermen had a good season, but as they consign the crabs themselves to the English markets, the high railway rates considerably reduced their earnings. The value of shellfish was £198 higher than in 1919. The crabs landed at Catterline are said to be of very good quality and sell readily.

The net factory at Stonehaven has been extended recently, and all branches of net-making are now conducted under the same roof, whereas formerly the various workshops were considerably apart. The year was not a busy one, as nets were not in great demand, owing, no doubt, to the high prices ruling, and the net-makers were consequently very often on short time. The prospects for the future are far from being bright, as the manufacturers have large stocks on hand.

The year was free from any serious casualties or loss of life. Loss of fishing gear was also trifling.

The prospects of the fishing industry for the immediate future are by no means encouraging. The fishermen belonging to this district are men well advanced in years, and the younger generation are not following in the footsteps of their fathers, as was once the case, in adopting fishing as a means of livelihood. It appears to be only a matter of time until line fishing will be an industry of the past. In the majority of cases the remuneration is insufficient, while the women-folk strongly object to the drudgery of baiting lines.

JAMES DONALDSON,

*Assistant Inspector of Sea Fisheries.*

FISHERY OFFICE,

ABERDEEN, 12th January 1921.

#### *Aberdeen District.*

The results of the fisheries for the year 1920 were only fairly satisfactory, but in so far as the value of fish landed is concerned, it was a record season, as the value exceeded that for 1919 by £848,660 and that for 1913 by £1,630,283. The quantity of fish landed was about 67 per cent. higher than last year, and was within 11 per cent. of the catch for 1913, which was the most remarkable year ever experienced in the history of the trade at this port. Great though the landings were, they do not altogether represent a year of prosperity for the producer. The earnings in the important trawling industry unfortunately entailed dwindling profits, and in some cases losses to the companies concerned.

Competition became intensified from the opening of the year by a steady increase of the fleet, and a frequently congested market led to lower selling prices, while the cost of production mounted abnormally. It was almost a daily occurrence for vessels to have a debit settlement, especially trawlers voyaging to the far-distant grounds. On the other hand, the majority of the short-voyage trawlers were fairly successful. Steam liners on the whole did remarkably well,



especially the vessels which devoted their attention entirely to great-line fishing. The other fishings prosecuted were not attended with any outstanding success, and herring fishing in particular was a comparative failure.

The weather conditions during the year were at times very adverse to successful fishing operations, especially during the winter and spring, when the majority of the long-voyage trawlers made on an average only three landings for the first two months of the year; and throughout the remainder of the year voyages were often prolonged on account of rough weather, which rendered operations unremunerative.

The coal strike which took place at the end of October dislocated the industry to a certain extent, and a number of boats were laid up temporarily by certain companies so that the vessels which were kept operating could get full bunkers of coal instead of the half-bunker's ration allowed.

In connection with the means of capture there is a decrease of some 20 boats from 1919, chiefly of third-class sail boats, while, on the other hand, trawlers show an increase of 11 vessels. With the exception of a decrease in the area of netting, caused by a decrease in the number of drifters following the herring fishing, fishing gear shows little variation. During the latter part of the year the prices of trawlers showed a downward tendency, falling, in all, about 25 per cent. as compared with the prices current during 1918 and 1919. A number of trawlers sold to English ports during the war have been purchased back to this port for the inshore fishing at greatly reduced prices. The value of motor boats, especially those of 30 to 40 feet overall employed at small-line fishing, is also on the down grade; in fact, there appears to be no demand for this style of craft at any price. Several have been and are still being offered for sale, but no purchasers are forthcoming. All the shore owners are anxious to clear out, but the general opinion is that they have held the vessels too long.

As regards trawling, which is the premier branch of the industry carried on from this port, the fleet now operating is the greatest that has ever been employed, totalling 260 vessels. Trawl fish accounted for 82 per cent. of the gross value of fish landed, but the operations of trawlers did not turn out a financial success. The outstanding feature in connection with trawling was the great number of non-paying voyages made by the largest-sized vessels; so great were the losses about the end of April and during the month of May that the majority of the vessels of this type were laid up at the end of May for three months. The high cost of fishing material, coal, ice, etc. greatly handicapped operations. It is computed that unless vessels of the largest size earn at least £1000 per month there is a debit balance, and very few vessels have averaged anything approaching that figure for the year's work. The best fished vessel made £20,500, but this was an exceptional case, and a fourth of them finished up in debt. The daily working expenses of large-sized trawlers run from £35 to £40, and for inshore trawlers from £15 to £25, according to size. Short-voyage trawlers operating on the nearer grounds were fairly fortunate, and in most cases made fairly good earnings, but the low values obtained at times for "extra small" haddocks and "small" whittings when disposed of for manure materially lowered their earnings.

The results of the Faroe fishing were very discouraging, and fish was found scarce on that area throughout the year. In many instances trawlers had to complete their voyages in the North Sea, which repeatedly meant a debit settling. The bulk of the catch from Faroe usually consists of codlings, upon which the filleting trade depend for

their best supplies, but so light were the catches during the year that codlings frequently were dearer than haddocks. The total catch shows a decrease of 51 per cent. as compared with that of 1919, and of 29 per cent. as compared with that of 1913.

The Icelandic fishing was not up to expectation, and was not conducted with the same energy as in pre-war times. The demand for fish from that locality, which, as a rule, are only fit for cured-dried purposes, was very limited, and the fishing was eventually given up by local vessels. The scarcity of fish splitters considerably handicapped the curers. There were numerous arrivals of English vessels from salting voyages, whose fish being split and salted on board suits curers better, owing to the saving of labour. Local trawlers cannot compete with English vessels in this fishing, as the English fishermen are much better paid for the adventure, receiving a bonus on the gross earnings for the voyage, which the Aberdeen fishermen do not. To equip a trawler for an Iceland voyage costs from £800 to £900, fully half of which is expended on coals, extra crew, gear, ice, etc.; so it is very easy to run into debt with an unsuccessful voyage. The season's catch amounted to 211,490 cwts. valued at £149,756, against 111,445 cwts. and £123,125 for 1919, and 546,321 cwts. and £179,168 for 1913.

Herring trawling started during the last week in August and continued for six weeks with unexpected success. Almost all the vessels fished with the ordinary trawl net, only a very limited number being fitted with the special herring trawl. The herrings were caught mostly on the Fladden grounds, lying from 120 to 150 miles N.E. by E. from Aberdeen. This area, although extensively fished in pre-war years, never yielded any quantity of ground herrings. The fish were of fine quality, being well matured, with milt or roe, and being congregated in a dense shoal, doubtless for spawning, fell an easy prey to the trawl nets. The total catch for the period was 10,844 crans, and the price averaged 65s. per cran. Practically all were made into kippers, and buyers were attracted from Peterhead and Fraserburgh for supplies. The best-fished vessel grossed £2553 for four shots, and the highest catch made £1104, but many of the vessels were not successful and discontinued operations. In all, 71 trawlers made from one to six voyages, the aggregate number of arrivals being 180. German trawlers were reported to be working on the same locality, and were said to be doing considerably better than the Aberdeen vessels, as all the former were fitted with the special herring trawl nets. It was in Germany that the Aberdeen fishermen purchased these nets before the war, as they are not made in this country unless specially ordered, and even then it is difficult to have an order completed.

Steam line vessels had a remarkably good year, and so encouraging were the results that 34 trawlers were converted into liners for about 5 months of the year. The most profitable grounds fished were Faroe Bank, Rockall, St. Kilda, and Eagle Island off the west coast of Ireland. It is noteworthy that the catch of halibut was a record one, representing about 26 per cent. of the total line catch. Line-caught halibut generally commands good prices, but the average obtained was 93s. 7d. per cwt., which is a record for this species. In the early spring and summer about 120 liners were operating from this port, although the majority were of the drifter-liner class from the Firth of Forth, Peterhead and Buckie, and all made fair earnings, fishing principally for cod in the North Sea. The best fished liner of the largest class realised £22,000 for the year's work, which is unprecedented in the history of line fishing at this port. The best drifter-liner continuing the line fishing throughout the year made £12,000. There were a few



unfortunates among the converted trawler-liners, but the majority of the vessels did very well.

The results of small-line fishing by motor boats were very disheartening. By early summer a number of the boats had discontinued the fishing and were laid up, as they were not earning working expenses, let alone a living wage. Several of the fishermen were for a time employed as fish porters in the market. The small-lining industry is fast dying out, and is now prosecuted only by fishermen well advanced in years, while the younger generation all go to either trawling or steam lining. It is only a matter of time until the industry will be a thing of the past. The baiting of lines involves an enormous amount of work on a fisherman's household, and fishermen with no family are paying at the rate of 24s. per week for a woman's labour baiting lines. A feature favourable to these fishermen, however, was a very successful autumn fishing with the seine net in Aberdeen Bay, and so satisfactory were the results that a fleet of 35 motor boats was employed. Of these, 19 belonged to Gourdon, where also small-line fishing was found to be unremunerative. In previous years the seine net was a complete failure in this locality, and the fishermen attribute the successful catch to a plentiful supply of lug worms on the fishing grounds, caused by heavy ground swells on the shore. For two months the fishing continued to yield good catches, and the best fished boat made £767, while the average earnings stood about £364. One boat made £101 for one night's work. No flat fish under the minimum size of 8 inches allowed by the regulations were landed.

The herring fishing opened with exceedingly poor prospects in so far as the curing branch of the industry was concerned. Very little preparation was made by curers for the opening of their curing yards owing to the uncertainty of boats congregating at the port, which has of recent years been neglected as a herring port. On that account it was not considered necessary to form a Local Committee under the Government Guarantee Scheme, but the work was undertaken by the Assistant Inspector, who was called upon only four times to settle small disputes, when prices tended to go below the minimum. No cases had to be brought before the Executive Committee for settlement, and no expenses were incurred in connection with the working of the scheme.

The season turned out a comparative failure. The bulk of the herrings landed was caught by boats fishing principally from Peterhead, which arrived at the port with their catches towards the end of the week, with the sole object of securing a supply of bunker coal at a cheaper rate than at Peterhead. Up to 21st August the season's catch amounted to only 10,352 crans, of which the small total of 1108 crans was cured gutted for exportation, 1437 barrels being handed over to the Government and accepted as Grade 1. About 90 per cent. of the catch was purchased for tinning, kippering and freshing. The quality was poor, especially in the case of the herrings caught on the south grounds. The average price works out at 55s. 4d. per cran, and for those cured at 46s. 6d.

The cured dried fish trade was not conducted with the usual activity, and a lack of experienced workers tended to restrict the purchase of supplies. This industry, like the herring industry, was considerably affected by the rate of exchange and the poor demand in foreign markets, on which the trade entirely depends. The amount cured during the year was 98,252 cwts., chiefly codling, saithe and haddocks, being an increase of 38,152 cwts. over last year's cure. Prices were flat owing to the very poor demand, and large stocks still in the hands of the merchants do not augur well for the Icelandic fishing of 1921.

It is interesting to note that the year was a record one in the ice-making industry in Aberdeen. The quantity of ice sold was 110,000 tons, compared with 65,000 tons in 1919. Many English vessels were obliged to call at this port during the summer months, as supplies of ice were hardly obtainable at Grimsby and Hull. Considerable quantities were also sold to France. It is remarkable that the price of ice at Aberdeen is cheaper than at any other place in Britain, being £1 per ton, while at Grimsby the price is £1, 7s. 6d. and at Hull £1, 10s. The pre-war price was 7s. 6d. per ton, but owing to the cost of plant, repairs and wages, there is no prospect of an early reduction in the price now current.

Only 9 steam fishing vessels were built during the year, which is the lowest number for many years past. Only 1 trawler was for Aberdeen; 2 went to foreign countries and the remainder to English ports. 2 special vessels were built for Lowestoft of the drifter-and-trawler type. They were fitted out on the same lines as French drifters with a bow rudder and a portable fish room, so that the fish room can be converted into a hold capable of stowing 450 herring barrels. These vessels are intended for the Ymuiden herring trade, and for trawling in winter. The prospects of the shipbuilding industry as regards fishing vessels are extremely dull.

For the greater part of the year the barrel-making industry was fairly active notwithstanding the poor prospects facing the herring trade, but the Government Guarantee stimulated production, with the result that coopers were fairly well employed. The number of barrels and half barrels manufactured was still considerably less than in pre-war times, and one barrel factory was closed all the year owing to heavy stocks on hand. The coopers' threat to strike during the summer herring fishing for increased wages did not help them greatly, as by their action they lost the sympathy of their employers. In December a dispute regarding wages for 1921 caused a good deal of friction. However, the dispute was settled by the coopers' accepting the curers' terms, which consisted in a slight reduction in both barrel-making and fishing wages. The prospects for coopers are by no means bright, and it is feared that many will be idle for some time during 1921.

In so far as the present position and future prospects of the fishing industry are concerned, the outlook is very gloomy. The high price of coal and heavy working expenses have handicapped the producers considerably. It is feared that many of the larger trawlers will be laid up by early summer unless a considerable reduction is effected in the price of bunker coals. The recent losses have been so great in many cases that companies will be unable to carry on as they have done. The herring industry is likewise in a very discouraging position, mainly owing to the unsatisfactory condition of the continental markets for cured herrings, which are the mainstay of the industry.

JAMES DONALDSON,

*Assistant Inspector of Sea Fisheries.*

FISHERY OFFICE,

ABERDEEN, 21st January 1921.

*Peterhead District.*

The fishing industry in this district, the success of which depends almost entirely on the produce of the herring fishery, is, in common with that of many other districts, passing through the most trying period in



its history, and but for the assistance rendered by the Government during the year under review, in the form of the Herring Guarantee Scheme, would have been placed in a position from which it would probably have taken years to recover.

Unfortunately the relief afforded promises to have only temporary results, as, by the close of the year, the general position had become more acute. Large stocks of cured herrings remained on hand, for which there was little or no outlet, and unless a marked improvement takes place in the exchange on the Continent, to which the bulk of the Scottish cure is exported, or some way is found out of the present *impasse*, the position of the industry in 1921 will again be a critical one.

The demand in the Continental markets would very probably be improved, and the volume of trade greatly increased, were it found possible to offer the cure at values approaching those ruling in pre-war years, but, owing to the abnormal increase in the expenses necessary to the conduct of the industry, both on land and sea, no great reduction in prices can be effected unless an appreciable fall in the cost of production takes place.

The total quantity of fish (excluding shell fish) landed within the limits of this district during the year amounted to 393,641 cwts. valued at £322,867. These figures show a decrease in quantity of 135,514 cwts., but an increase in value of £59,676 when compared with the returns for the previous year, the differences being entirely attributable to a falling off in the landings of, and the higher values ruling for, herrings.

In the means of capture returns the most important change was the comparatively large increase in the number of steam trawlers and second class motor boats, 7 of the former and 18 of the latter having been added to the register. The addition to the trawling fleet was a direct result of the uncertainty regarding the herring fishing, and the heavy expenses entailed in the provision and upkeep of gear necessary to its prosecution. Fearing there would be little demand for herrings, a number of fishermen decided to adopt trawling in the hope that more remunerative results would thereby be obtained. The majority of the vessels, a few of which had previously been employed as drifters, were of the smaller class, suitable only for North Sea fishing.

The increase in the case of small motor boats will probably continue as this type of vessel has become very popular in the district. On the other hand the large motor drifters do not find favour with local fishermen, and a number were exposed for sale during the year, but failed to find purchasers.

When the herring fishing season opened on 25th June 110 steam and 70 motor drifters had gathered at the port, but these numbers were soon increased, and the regular fleet at work throughout the season consisted of 282 vessels, compared with 200 in 1919. The results during the opening week were very encouraging, and gave promise of a fairly successful season. On Saturday, 26th June, some heavy catches were secured on the grounds from 35 to 60 miles east by south from Peterhead, but this success was not maintained, and the landings from the same grounds during the following week were light and irregular. Thereafter the fleet spread over a wide area. A large number of vessels confined their operations for a time to the inshore waters, while others tried the grounds from 20 to 60 miles north-east to south-east, but practically all met with the same disappointing results.

Only during the week ended 17th July did the quantity landed (21,986 crans) come anything near the requirements of the trade, and of this quantity about 8000 crans were landed on one day. An unusual feature in connection with the fishing was that herrings were seldom

obtained on the same grounds on two successive nights. No doubt the weather conditions militated against success, as on many occasions there was a change in the direction of the wind after the nets had been set, an occurrence which is usually followed by a light fishing, but this cannot in itself account for the abnormal shortage in the landings, and it was evident that no dense shoals were on the usual grounds.

Another cause which was given as being contributory to the shortage was the presence of large shoals of organisms, somewhat similar to jelly fish, but smaller and differing in shape. This jelly like form was not confined to any particular area, but was met with on the grounds all along the East Coast.

The season's catch amounted to only 98,411 crans compared with 140,615 crans in 1919.

The herrings were, as a rule, of good quality, although the proportion of matties in the catch was greater than that of an ordinary season. Only during the last 10 days was any quantity of fulls landed.

Competition on the part of the buyers was always keen, and only on one occasion did prices fall to the minima of 45s. per cran for fresh and 40s. per cran for roused fish. Prices ranged from 45s. to 80s. per cran, the general range being from 53s. to 66s. and the average for the season 55s. 6d.

Notwithstanding the high average price a number of vessels failed to clear expenses, while the earnings of many others were only sufficient to meet the necessary outlays.

At the port there were 107 buyers, of whom 78 represented curing firms. As a result of the light landings and the resulting competition for supplies, the curers were faced with the alternatives of either buying at prices which they knew must result in a loss, or of standing by with staffs idle and material unrealised. The former course was preferred as the less evil, and the prices thus paid for herrings for curing purposes ranged from 53s. to 60s., and occasionally up to 64s. per cran.

The local Fishcurers' Association, in common with similar Associations at other ports, endeavoured to limit the maximum price to 47s., but the attempt was unsuccessful, and a scheme of rationing at that figure which was introduced on the 4th August did not survive longer than a few hours.

Owing to the fact that no herrings were landed in the early part of June, that few spent fish were landed, and that wastage was reduced to a minimum, the "outcome" obtained was larger than in an average season, many curers realising from 133 to 134 barrels for every 100 crans cured.

The total quantity cured was about 85,000 barrels compared with 105,900 barrels in 1919. Of the former quantity 79,451 were handed over to the Board, the bulk of the remainder being overdays and sea-salted herrings.

In consequence of the high rates paid by curers for fresh herrings, and the fixed prices received for the cured article, practically every firm sustained a loss on the season's transactions.

In the early part of the season the kipper markets were in a very depressed state, and kipperers limited their output, but matters subsequently improved and normal quantities were then dealt with.

For a time there was considerable unrest among fishworkers, and a threatened strike by coopers was only averted by an increase in wages. The women employed in the kippering establishments went on strike for a few days, but as there was then little demand for kippers, and the firms involved were prepared to close their premises, work was resumed at the old rates.



The duties of the local committee appointed to assist in carrying out the provisions of the Government Guarantee Scheme were, except during a short period in the early part of the season, of a light nature. Regulations fixing the hours of sale and requiring that all herrings landed be sold by auction were drawn up. Copies of these were exhibited for the information of the trade, and the regulations were carried out without dispute, while the light catch obviated any difficulty with regard to obtaining the guaranteed prices. The committee were also able to assist in relieving the position at Fraserburgh, where, on 15th July, owing to heavy landings and other causes, great difficulty was being experienced in disposing of the catch at the minimum price. On this information being transmitted by the officer in charge of Fraserburgh it was found possible, after consultation with the local curers, to ease the congestion at that port by bringing fully 1200 crans to Peterhead.

As already stated a considerable proportion of the cure was left on hand at the close of the year, the shipments of 1920 summer cure amounting to only 41,000 barrels, nearly all of which went to Baltic ports.

Great-line fishing was carried on during the spring and early summer by a number of steam liners, the principal grounds frequented being those off the East Coast and Shetland. In the majority of cases fair results were obtained, the range of earnings being from £1000 to £2400 for periods of from 8 to 12 weeks. These vessels, however, almost invariably landed at Aberdeen.

The local fleet of steam trawlers also made Aberdeen their headquarters, and the quantity of trawled fish landed in the district by these vessels was negligible.

Motor trawling received more attention than usual, the boats employed being from 20 to 36 feet keel. Operations by these small craft could only be carried on under the most favourable weather conditions, and the best results were therefore obtained during the summer and autumn months, when about 18 crews were at work. Catches consisted almost exclusively of medium and small plaice, the former predominating, and earnings were very remunerative, individual crews occasionally earning from £20 to £30 for a single night's fishing.

Results at line-fishing fluctuated considerably. During the opening months of the year the fishing was vigorously prosecuted by fully 100 boats, and good catches were obtained from 1 to 3 miles off. Subsequent operations, however, proved disappointing, especially towards the close of the year, when few fish were found on the inshore grounds, and boats were kept in harbour for extended periods by stormy weather. Codlings bulked largely in the landings, while the proportion of haddocks was unusually small.

One hundred and fifteen steam and five motor drifters took part in the East Anglian herring fishing with fairly successful results, the average gross earnings of the former being fully £1400 and of the latter £830. Owing to the exceptionally fine weather experienced throughout the season the loss of fishing gear was comparatively light, but on the other hand general working expenses were heavy, the average per vessel for the season being fully £500. Sixty-seven pickling firms also took part in curing operations, this being the largest number that has ever gone from the district.

Coopers were well employed until November, when the question of wages came up for reconsideration. No agreement with curers was then reached, but at a conference held later, an offer of the rates obtaining prior to the advance in July was accepted. As a considerable number of empty barrels remained on hand, and curers were reluctant to manu-

facture large stocks at the high prices current for staves and other material, a number of coopers failed to find employment, the estimated number idle at the close of the year being about 90.

Boat-building was practically at a standstill, there being no demand for any type of fishing craft, and builders were occupied chiefly with repair work.

Considerable loss of and damage to gear was sustained by district crews in the Minch and off the North Coast during the winter fishing, but the loss at other seasons was much below the average.

Unfortunately the loss of life in connection with the fisheries was greater than for many years. Three young men engaged in motor trawling were drowned as a result of their boat striking a submerged rock when on the way to the fishing grounds, while three other fatalities occurred, in each case through the fisherman falling overboard.

Classes for the teaching of navigation were held at Peterhead and Boddam during the winter months. These were well attended by fishermen, and the results of the examinations held were very gratifying both to teachers and pupils.

ROBT. SPINK,  
*Fishery Officer.*

FISHERY OFFICE,  
PETERHEAD, *January 1921.*

#### *Fraserburgh District.*

The results of fishing operations in this district during the past year can hardly be described as satisfactory. Compared with those of the preceding year, the returns of fish landed show a decrease of 297,887 cwts., although in the total value of the catch there is an increase of £9458. The falling off in the catch, and also the increase in value, are chiefly referable to herrings, of which 309,969 cwts. less were landed than during the preceding year. Owing to the higher prices paid, the value of herrings exceeded that of 1919 by £17,084. In making this comparison it has, however, to be kept in mind that a much larger number of crews were employed at herring fishing in this district during the year under review than was the case in 1919.

The number of fishing boats now owned in this district amounts to 529, 87 steam vessels, 193 motor boats and 249 sail boats, being an increase of 3 steam drifters, 13 motor boats and 10 sail boats as compared with the preceding year. In addition, 5 steam drifters belonging to English ports were manned by district crews throughout the year. Seven large motor boats were sold from the district, but 20 motor boats of from 18 to 40 feet in length were added to the local fleet. Twenty large motor boats were unemployed owing to the difficulty of getting crews with fishing gear. Only 1 large sail boat now appears in the district returns. This boat, although still on the Fraserburgh register, is now owned by Shetland owners. The number of small sized sail boats, used in connection with the inshore fisheries, was increased by 15. Of the year's landings 63 per cent. was landed by steam vessels, 33 per cent. by motor boats and 4 per cent. by sail boats.

The principal branch of the fishing carried on in this district is herring fishing, which contributed 90 per cent. of the landings and 89 per cent. of the value. A number of district crews were employed at herring fishing on the west coast of Scotland and on the Irish coast during the first three months of the year. The season did not generally prove remunerative. Indeed, with the exception of a very few fortunate



cases, most of the crews finished up in debt. On several occasions catches of herrings, caught on the west coast and on the north coast of Sutherlandshire, were landed at this station, the total quantity landed during the first quarter of the year being 7248 crans. These herrings were bought for kippering at fair prices. Local kipperers during this season also obtained supplies from west coast stations by rail.

Owing to the continued closure of the Russian markets, and to the difficulty of trading with other cured herring consuming countries, the prospects for the summer herring fishing were very gloomy indeed. With the high cost of fishing material and the heavy working expenses, fishermen refused to fish unless they were guaranteed a minimum price for their catches. Curers were in an equally difficult position. There was little prospect of a market for their produce, and they were not in a position to pay the prices required by the fishermen. Ultimately a Government Guarantee Scheme was arranged, under which the curer was guaranteed a flat rate of 62s. 6d. per barrel of cured herrings up to a total of 570,000 barrels, provided 45s. per cran was paid for all herrings landed fresh between 25th June and 21st August. Prior to the commencement of the season preparations were made for dealing with a large catch. Following on the experience of the previous year, when it was difficult to get supplies of salt and stock forward either by rail or sea, curers made arrangements to have the season's full supply of salt delivered early, and large stocks of barrels were accumulated. A large number of female fish-workers, some of them experienced, many of them otherwise, were employed, and the only difficulty that seemed to present itself was the doubt of the workers being able to deal with the anticipated heavy landings. Fishermen were equally sanguine as to the success of the season.

The season opened on the 26th of June, and for the first half of the period it looked as if the anticipations of all concerned were to be realised, the total catch up to 24th July being 100,819 crans. Unfortunately the fishing then fell off, and for the remainder of the season only 35,000 crans were added to the catch. During the early part of the season the principal fishing grounds were from 30 to 70 miles N.N.E. and E.N.E., but later all the available fishing grounds within a radius of 80 miles off Kinnaird Head were tried, generally with disheartening results. A few catches were landed from the fishing grounds off St. Abbs' Head, and at least one came from off the north coast of Sutherlandshire. It is difficult to account for the failure of the fishing during the latter part of the season. The usual fishing grounds had been only partially fished during the previous six years; the weather was not unfavourable; the fleet employed was, in catching power, the largest ever employed at this station; nets were tried at various depths, yet the landings for the four weeks from 24th July to 21st August were only equal to the quantity that could have been dealt with by the shore workers in two days.

The quality of the herrings landed during the season was only fair. As most of the catch was obtained during the early part of the season, matfulls and matties predominated, and the proportion of fulls was much less than usual. The proportion of spents was also less. Fishermen experienced an unremunerative season, due to the short catch, and also in a great measure to the high cost of coals and other stores and fishing material. It is doubtful if the average earnings of fishermen for their labour equalled £4 per week. The average gross earnings of steam drifters were about £1100, of motor boats about £700 and of sail boats about £400. Curers also fared badly. With the light fishing, as they were anxious to fill their barrels, they paid excessive prices for the

herrings, and these they were unable to dispose of otherwise than to the Government at the fixed rate of 62s. 6d. per barrel. Prior to the 21st July curers purchased herrings for curing at prices varying from 45s. to 55s. per cran, but in view of the continued light fishing, and the impossibility of finding a market except through the Government, they resolved to adopt a rationing scheme by which each curer obtained a share of the landings, according to the number of crews employed, at 47s. per cran. This scheme continued in operation, with occasional variations, for the remainder of the season.

The total number of barrels cured amounted to 102,448 gutted and 1453 ungutted. Of the gutted herrings 83,104½ barrels were handed over to the Board. 987 barrels were officially branded outside the Scheme. The proportion of the catch cured was about 58 per cent.; 25 per cent. was kippered and tinned; and 17 per cent. was sent to market in a fresh state. The direct exports of the season's cure up to the end of the year amounted to about 41,000 barrels, Libau and Danzig being the principal receiving ports. About 4000 barrels were railed to other districts for export, chiefly to America, and about 2000 barrels were sold for home consumption.

No difficulty was experienced in carrying out the provisions of the Government Guarantee Scheme, due in a large measure to the tact displayed by the gentlemen appointed to the Local Committee to represent the interests of the fishermen and the buyers. Only on a few occasions during the opening days of the season, when the full complement of workers was not forward, was it found necessary to reduce the price below 45s. per cran, and in no case had the Committee to undertake the rationing out to curers of herrings landed.

A number of crews were employed at great-line fishing on the west coast during the first 4 months of the year. Their operations were attended by fair results. A few crews prosecuted this fishing from Fraserburgh, but owing to the irregular supply of bait the venture was not attended by any great measure of success. It is likely, however, that with the uncertainty connected with herring fishing this branch of the industry may be further developed in the future.

There was a considerable increase in the number of crews employed at small-line fishing, which is now almost entirely prosecuted by motor boats. The catch was greater than that of last year, but the value was less, prices during the summer months being comparatively low. Haddocks were very scarce during the last quarter of the year, and during that period and also during the first quarter the fishing was frequently interrupted by stormy weather. The cost of bait was very high.

The following table shows the average price per cwt. paid for (1) herrings, and (2) for other fish in this district during the years from 1914 to 1920:—

Year.	Herrings.		Other White Fish.	
	s.	d.	s.	d.
1914 . . . . .	5	9	10	1
1915 . . . . .	16	2	18	10
1916 . . . . .	12	3	22	10
1917 . . . . .	12	5	29	1
1918 . . . . .	22	0	50	7
1919 . . . . .	8	7	28	9
1920 . . . . .	14	6	18	5

Crab and lobster fishing received more attention at the outlying creeks, and the catch shows an increase on that of 1919.



Altogether 135 crews from this district prosecuted herring fishing on the East Anglian coast during autumn. The season proved moderately successful, the gross earnings of the district crews being £166,335. Fortunately the prosecution of this fishing was attended by very little loss of fishing gear.

Two large motor boats were fitted out for trawling, but the gear was disposed of after a few unsuccessful trials. During the latter part of the year a number of steam trawlers landed their catches at Fraserburgh. Most of the takes were railed to Aberdeen market for sale.

The boat-building trade was slack throughout the year, the output being limited to small motor and sail boats. The employment for coopers was good until near the end of the year.

In January a regrettable accident occurred at the entrance of Fraserburgh harbour. A motor line boat while returning from the fishing grounds was swamped, and the three fishermen who were on board were drowned. Other three small motor boats were lost on the same day, but the crews were saved. In July a fisherman, employed on a Lowestoft drifter fishing from Fraserburgh, fell overboard and was drowned.

During the past year very little was accomplished in the way of re-establishing the fishing industry, more especially herring fishing and curing, in which this district is largely interested, on a satisfactory basis. The chief factors which adversely affect the industry are (1) the increased cost of vessels and fishing material and the high working expenses; (2) the unfavourable financial position of the countries in Central Europe to which herrings are exported, and (3) the continued closure of the Russian markets.

Owing to the high cost of fishing material, fishermen were not in a position to replace the usual proportion of their gear, and already a shortage of nets is being experienced. From this cause a number of large motor boats and a few of the oldest steam drifters were laid up during last year, with considerable loss to the owners. The working expenses of fishing vessels, *i.e.* cost of coals, oil, stores and labour, showed no reduction during the past year, and it is impossible for fishermen to continue to fish unless they receive a proportionate price for their produce. Curers are in a similar position. With the increased cost of barrels, salt and labour, the expenses of curing a barrel of herrings are now reckoned at 26s. compared with about 8s. in 1914. Fishermen and curers were able to carry on business during the past year without any very serious loss by the aid of the Government Guarantee, but a very large proportion of the year's cure remains in the hands of the Government unsold. The high cost of herrings in this country, coupled with the depreciated exchange and the import restrictions of the consuming countries, limited the sale of herrings, and until those import restrictions are removed and better financial arrangements made, it is difficult to see how the cured herring industry can be conducted on anything approaching its pre-war scale.

WM. KEIR,  
*Fishery Officer.*

FISHERY OFFICE,  
FRASERBURGH, 17th January 1921.

*Banff District.*

The returns of fish landed in this district during the past year show a decrease in quantity of 8735 cwts. The value also decreased to the

extent of £22,221. This was due to a falling off in small-line fishing, and to the lower prices prevailing for white fish. Herrings show a considerable increase in quantity and value. The value of shell-fish also shows a slight increase.

The district fleet was augmented by 4 steam drifters, 20 motor boats and 7 third class sailing boats during the year, but at the same time suffered decreases of 3 steam drifters, 15 motor boats and 34 sailing boats, so that there was a net decrease, as compared with 1919, of 21 vessels. This decrease was due chiefly to a number of crews disposing of the motor boats they had been fishing with on the return of their steam drifters from Admiralty service, and to the breaking up of obsolete sailing craft.

The cod-net fishing was prosecuted chiefly by crews fishing from Gardenstown. A start was made about the middle of January, and fishing continued until the end of March. Only 14 motor boats were engaged, as compared with 24 last year, and the catch and value show considerable decreases. The average price per cwt. was 28s. 10d. against 47s. 9d. in 1919.

At Whitehills also anchored-net fishing was prosecuted for the same period, but the principal kinds landed were lemon soles and plaice. The fishing there was more successful, and better results were obtained than in the previous year.

Small-line fishing is the most important fishery carried on in the district. The boats engaged are almost all equipped with motor engines, only a few smaller sized sailing boats operating during the summer months. The results were not so good as last year. The quantity of fish landed was less, and the average price per cwt. dropped from 34s. 3d. to 32s. 5d. Fewer boats were employed than in 1919, as fishermen who prosecuted line fishing during the last few years have now returned to their pre-war occupation of herring fishing in steam and motor drifters.

During January and February the bulk of the local steam drifters were engaged in herring fishing on the North and West Coasts with fairly good results. A number of shots were landed at Macduff, the total being 741 crans valued at £1461. The herrings were all kippered and sent to the Glasgow, London and Midland markets.

The summer herring fishing was fairly successful. Operations commenced on June 24th and continued until the end of August. The local steam drifters fished chiefly from the larger centres, but quite a number made week-end landings at Macduff. About 20 motor boats, including several of from 35 to 45 feet of keel, fished from Macduff, and occasional shots were also landed at Portsoy and Whitehills. What greatly helped towards the increased landings was the presence of herrings in the Moray Firth during the latter part of the season, good takes being got 2 to 4 miles off Macduff.

The Government Guarantee Scheme, under which the fishing was carried on, worked smoothly. Curing was begun on 26th June, when the minimum price of 45s. per cran was given, but that price was generally exceeded later in the season. The average price per cran for the season, namely 51s., shows an increase of 19s. 3d. over the average price of last year.

The total catch for the season was 8466 crans as compared with 6723 crans in 1919. Of this total 1188 crans were kippered, 429 crans freshed and 8787 barrels cured. Almost the whole cure was taken over under the Government Guarantee Scheme. The quality of the herrings was good during the whole season. The firms engaged in kippering had a fairly good season, but curers would barely clear expenses.



Owing to the heavy working expenses and the cost of gear, results to fishermen were not very satisfactory. A number of crews just cleared their expenses, while the best fished would only have fair wages. The smaller motor boats, fishing on the inshore grounds, were most successful. It is interesting to note that only one sailing boat was fitted out for herring fishing during the year in this district.

About the middle of September 84 steam drifters and 12 motor boats left to prosecute the herring fishing in English waters. The weather was very favourable, and satisfactory results were obtained. Steam drifters grossed from £880 to £1980, and motor boats from £600 to £1100.

During December a few steam drifters proceeded to the West Coast for the loch fishing. Herrings were, however, scarce, and only a few crews met with any success.

Local boat builders were fairly busy during the year. Seventeen motor boats of from 30 to 52 feet of keel were built, the bulk of these being for Macduff fishermen for line fishing. Only 5 third class sailing boats were built.

During the early part of the year coopers were fully employed at barrel-making. The number of barrels made shows a large increase.

Fortunately no lives were lost in connection with the fisheries of the district, but the damage to boats and gear was heavy. The losses include one steam drifter which sunk while on Admiralty service, and another which was sunk in collision in returning from the English fishing. Two large motor boats were also lost during the year, one having sunk on the fishing grounds during the summer herring fishing, while the other was wrecked later in the year on the West Coast. The winter herring fishing was responsible for the greater part of the damage to gear.

At the present time the prospects of the herring fishing industry are not very bright, but curers are busy making barrels and preparing for next season, and fishermen are trying to formulate a scheme to carry on the herring fishing of 1921. It is almost certain that, without some scheme, operations will be conducted on a very restricted scale.

The harbour improvement scheme at Macduff is nearing completion, and by next summer the new basin will be open. The increased accommodation is greatly needed for the laying up of fishing vessels between the various fishings.

GEORGE DOWNIE,  
*Fishery Officer.*

FISHERY OFFICE,  
MACDUFF, 19th January 1921.

#### *Buckie District.*

With the release of the last of the district fishermen from Admiralty service and the reconditioning of the local fleet of steam drifters, it may be said that for the first time since 1914 the means of capture were brought up to the normal standard.

Practically all the fishermen and fishing craft belonging to the district were employed, during a period of the year at least, in their former occupation. This being so, it will no doubt be of interest to note the change that has taken place in the composition of the fishing fleet during the years of the war.

From the table given below classifying the different kinds of fishing vessels belonging to the district in 1914 and in 1920 it will be observed

that the outstanding feature is the great reduction in the number of 1st class sail boats and the increase in the number of motor boats.

Year.	Fishing Vessels belonging to Buckie District.							Total Boats No..
	Steam.	Motor.			Sail.			
		1st Class.	2nd Class.	3rd Class.	1st Class.	2nd Class.	3rd Class.	
1914	298	...	...	...	243	102	51	694
1920	287	119	9	2	26	71	77	591
Total decrease from 1914 . . . . .								103

Notwithstanding the great number of local steam drifters which have been sunk while on service, it is gratifying to know that the number of steam drifters at present belonging to the district is not much less than in 1914. This is caused by the replacement of the drifters lost on service by Admiralty drifters in either of the two ways open to ex-service fishermen, viz.:—purchasing for cash, or purchasing by deferred payments under the scheme worked through the Board. The latter method was that more generally adopted.

When the usual time for participating in the summer herring fishing drew near, the outlook for the industry was anything but bright, and had not the Government been induced to grant another guarantee there is no doubt that for the year at least the herring fishing industry would have collapsed.

Thanks to the financial assistance from the Government the industry was carried on, and in consequence the general results of the district fisheries have turned out better than was at one time expected.

During the year under review, the total quantity of fish landed in the district was 141,421 cwts. valued at £129,950, showing an improvement over the results for 1919 of 22,144 cwts. in quantity and £8765 in value. Herrings were chiefly responsible for this improvement, showing increases of 18,650 cwts. and £25,523. On the other hand, although the quantity of cod was 1609 cwts. more than in 1919, the value was less by £18,674.

The majority of the district fishermen, however, devote their attention throughout the greater part of the year chiefly to herring fishing from other fishing centres, and for that reason the above figures do not give a true indication of their earnings.

It is estimated that the gross earnings of the fishermen who followed the herring fishing throughout the year amounted to about £1,000,000, but, owing to the heavy working expenses of steam and motor drifters, the aggregate net-earnings would not amount to much more than half that sum. Although the above earnings look considerable when taken collectively, it will be seen that when divided among 3500 fishermen the average earnings per man for labour and nets is only about £4 per week.

During January and February the majority of the drifters which were reconditioned participated in the winter herring fishing on the West Coast. As a rule they landed their herrings at Mallaig, Kyle-of-Lochalsh, Stornoway and Wick, but occasionally they steamed to Buckie, where good prices were usually obtained. The total quantity of herrings landed at Buckie during the opening months of the year amounted to



13,754 crans valued at £31,805, compared with 4377 crans valued at £16,179 during the corresponding period of 1919. With the exception of about 1800 crans which were "rough packed," all the herrings landed during the winter months were freshed and kippered.

Some of the crews had a very successful season, while others were unable to clear the working expenses of their boats. The gross earnings of the drifters ranged from £400 to £2300, averaging £1100.

The cod-net fishing was prosecuted from the middle of January to the second week in April. The number of boats which participated in this fishing was 69 (5 steam, 58 motor and 6 sail), compared with 76 (2 steam, 38 motor and 36 sail) in 1919. During the first few weeks of the fishing the weather was generally unfavourable and the results obtained were poor, but during March some splendid shots were landed from the fishing grounds lying to the north side of the Moray Firth.

To begin with prices were controlled at 5s. per stone, but when they became decontrolled they fluctuated very much, and during the remainder of the season they ranged from 1s. to 10s. per fish. The total catch for the season was 18,038 cwts., being slightly better than in 1919, but as the average value for the season was only 31s. 7d. per cwt. compared with 52s. 4d. per cwt. in 1919, the total value is less by £18,570. With the exception of 47 tons which were cured, the whole catch was sent away in a fresh state to the southern markets.

The summer herring fishing was prosecuted from Portknockie, Findochty and Buckie. It opened on 25th June and was carried on to the 21st of August. The Government Guarantee Scheme worked satisfactorily on the whole. With an average fishing the scheme would have proved fairly remunerative to fishermen, and would have enabled the curers to come out on the right side, especially those who held old stock. Unfortunately, however, the expectations of fishermen and curers were not realised, and notwithstanding the fact that on the strength of the great increase in the catching power, greater preparations were made by curers for curing than in former years, the total catch for the season amounted to only 15,609 crans, compared with 19,052 crans in 1919. Of that quantity 11,468 crans were cured gutted, 3087 were kippered and 1054 crans were freshed.

The quality of the herrings varied considerably throughout the season, but on the whole was inferior to that of 1919. The best week of the fishing was that to 17th July, when 5087 crans were landed. The principal fishing grounds were from 17 to 55 miles N.E. by E. and E.N.E. from Buckie. The herrings taken from the more distant grounds were generally of very good quality, whereas those taken from the local waters were chiefly matties.

Of the total cured 13,712 barrels were accepted under the scheme, while a small quantity was disposed of by curers privately, principally to America.

Of those accepted by the Government, 11,142 barrels were still on hand at the close of the year, and while herrings cured in 1920 remain to be disposed of, the prospects for the industry for 1921 are by no means bright.

After the close of the summer herring fishing, fishermen refitted for the East Anglian fishing, in which 270 steam and 90 motor boats belonging to this district participated. Weather conditions were the most favourable experienced for many years, and as the fishing grounds proved prolific, and a minimum price of 45s. per cran was guaranteed to the fishermen under the Government Scheme, the results were very satisfactory. Earnings of steam drifters ranged from £500 to £2800, averaging £1350. The average gross earnings of motor boats were £910.

Owing to the fine weather that prevailed throughout the season comparatively few nets were lost at the English fishing.

Small-line fishing receives little attention in this district except from the older fishermen who are unable to follow the herring fishing. The results of this fishing were somewhat similar to those of the previous year.

Boat-builders were busily employed during the first eight months of the year refitting vessels which were released from Government service, but during the last four months trade was very dull, and several hundreds of employees were paid off.

The only new vessels launched during the year were 2 steam drifters which were built to the order of the Admiralty, and 1 large motor fishing vessel. The latter was 80 feet long by 17½ feet beam by 8 feet depth, and was fitted with a 76 b. H.P. Vickers-Petters semi-Diesel engine.

In October a commencement was made to deepen the channel at the harbour entrance. The Board's dredger and the Aberdeen rock-breaker were both employed, but the work was not completed at the end of the year. When the work is finished it will render the entering of the harbour much safer, and will tend to a further development of the district fisheries.

An outstanding feature in connection with the losses of the year was the number of large motor boats lost, 7 of which were burnt, 4 foundered at sea, and 1 was wrecked while taking the harbour.

The last casualty referred to, which happened in February last, was a serious disaster. The motor boat "Loyal" of Portessie was returning from the cod-net fishing on a dark stormy night, and while endeavouring to take the harbour missed the entrance, and, with the crew of 8, was lost at the back of the harbour breakwater.

A. J. MUNRO,  
*Fishery Officer.*

FISHERY OFFICE,  
BUCKIE, 12th January 1921.

#### *Findhorn District.*

Early in the year under review the reconditioning of steam drifters which had been in Admiralty service during the war was completed, and the number of vessels available for herring fishing approximated more closely to the pre-war standard than during any year since 1914.

Four-fifths of the district fishermen are dependent on the results of herring fishing prosecuted from the principal centres around the coast, and the success of the industry at those centres is very largely dependent on the export trade in cured herrings, which continued in a very unstable position owing to economic difficulties in Germany and Russia. There is no doubt therefore that a serious crisis was averted last year by the decision of the Government again to assist the industry financially by a Guarantee Scheme.

Although the summer herring fishing proved disappointing, good results were obtained at the East Anglian autumn fishing, and in a less marked degree at the West Coast winter fishing early in the year, but owing to the exceptionally heavy outlay incurred in connection with working expenses and the provision of gear, the net earnings in many cases proved unusually meagre.

Compared with the previous year, the quantity and value of fish landed in the district show decreases of 34,033 cwts. and £58,080 re-



spectively, due to the failure of the small herring and sprat fishing at Inverness during the closing months of the year, and to the continued decline in line fishing.

The principal feature in connection with the means of capture was the addition to the district fleet of 8 new steam drifters, built to the order of the Admiralty, and acquired by local crews of ex-service fishermen. A number of steam drifters and second class motor boats were sold to other districts, while 5 vessels were totally wrecked, so that compared with the previous year there is a reduction of 3 steam, 15 motor and 9 sail vessels.

With the increased number of steam vessels available, several of the large motor boats were laid up for a considerable period of the year, and of the few large sailing boats now belonging to the district, only 2 were employed during the summer season.

In the beginning of the year 78 vessels were employed at the winter fishing, chiefly on the West Coast, with fairly satisfactory results, gross earnings of steam drifters ranging from £700 to £2000, and of motor boats from £400 to £800. The best results were obtained by the steam drifters operating off the north coast of Ireland.

The summer herring fishing, in which 132 crews took part, proved a partial failure on the East Coast, but was moderately successful on the West Coast during the latter part of the season. Earnings had the wide range of from £500 to £1500 by steam drifters, and from £400 to £900 by motor boats.

Landings in the district were confined to week-end arrivals until the latter part of August, when a shoal of small herrings was located in the Firth, from 3 to 8 miles off Covesea. These herrings consisted chiefly of matties, with a considerable proportion under 9 inches in length. The appearance in the Firth of such small herrings when the season was so far advanced was unusual, if not unprecedented. For a short period good takes were landed, curing operations being carried on at Lossiemouth and Burghead, while several hundred crans were sent to Aberdeen for tinning purposes. During the season 4649 barrels were accepted under the Government Guarantee Scheme, against 1830 barrels during the previous season.

The East Anglian autumn herring fishing, which was prosecuted under exceptionally favourable weather conditions, proved to be the most remunerative herring fishing of the year, as good earnings were secured in a comparatively short period. As the number of barrels provided for under the Government Scheme was cured by the end of October, the majority of the Scottish crews left for home. Good earnings were, however, secured by the reduced fleet, which continued operations during November. Earnings by the district crews ranged from £800 to £2800.

Several motor boat crews decided to prosecute operations on the West Coast during the period of the English fishing, but the results proved most unremunerative, and in several cases expenses exceeded gross earnings by from £100 to £200.

The small herring and sprat fishing at Inverness was continued during the first three months of the year with fair results by 60 Avoch, Ardersier and Nairn crews, but during the last four months of the year, which is usually the most productive season, the fishing proved a complete failure, and after November operations were practically suspended. The landings and value show a decrease of 37,827 cwt. and £34,000 respectively as compared with the previous year. A considerable proportion of the herrings landed was despatched to Aberdeen for tinning purposes, and only a small quantity of sprats was cured. Two

thousand barrels of sprats, cured towards the close of 1919, were exported direct to Sweden early in the year.

The decline in line fishing operations since the termination of the war continued during last year, and several motor boats, acquired by fishermen during the war period when their vessels were in Admiralty service, were sold to other districts.

Cod net fishing was prosecuted during the spring months, with poor results, by an increased number of crews as compared with the previous season. The takes obtained were generally meagre, and prices frequently fell to a low level, owing to heavy supplies in the southern markets. Although the quantity of fish landed was practically equal to that landed during the previous season, the value was £14,000 less, being a reduction of 54 per cent. The gross earnings of the crews employed ranged from £200 to £500, which in many cases was absorbed in working expenses.

Seventy fishermen found employment throughout the year on board trawlers working from Aberdeen, while 40 were employed during a considerable part of the year in bringing to this country trawlers and drifters built in Canada to the order of the Admiralty.

Few boat builders were employed, and building was practically confined to motor boats of medium size, suitable for line fishing, of which 9 were launched, chiefly for other districts. Coopers were kept fully employed until the close of the East Anglian season.

A fisherman, belonging to Lossiemouth, was unfortunately drowned through falling overboard while prosecuting herring fishing on the West Coast.

The loss of fishing craft was heavier than usual, 3 steam drifters being wrecked, and 2 large motor boats being destroyed by fire, but the loss of netting was not nearly so extensive as during the previous year.

In view of the continued depression in the Continental markets, and the fact that no Government Guarantee Scheme will be available for the coming fishing seasons, the outlook for the herring industry meantime presents features of unusual difficulty.

WM. SINCLAIR,  
*Fishery Officer.*

FISHERY OFFICE,  
LOSSIEMOUTH, 12th January 1921.

#### *Cromarty District.*

For the year 1920 the number of fishermen in Cromarty district shows an increase of 43 over the number for 1919.

While line fishing was carried on with fair success at most of the creeks, some of the fishermen, especially those in Avoch, gave most of their attention to drift-net fishing, landing their catches at Inverness. Although the fishing for small herrings and sprats in the Beaully and Inverness Firths was so successfully carried on during the previous year or two, the results during the year under review were rather disappointing. Eight arrivals of motor boats in Cromarty district for the year had an average catch of 4.5 crans each, and realised an average price of 35s. 6½d. per cran, while 79 arrivals of sail boats averaged 1.1 crans per arrival and only 30s. 4d. per cran.

Cod-net fishing was carried on with a fair measure of success off Tarbat Ness, and most of the catches were landed at Portmahomack. The best results were obtained during the month of March, when individual shots ranged from 10 to 100 fish, and the prices realised were from 2s. to 6s. per fish. During February, March and part of April 122



arrivals of motor boats in the district averaged 3·5 cwts. each and realised an average price of 19s. 5½d. per cwt., and 62 arrivals of sail boats had an average catch of 4 cwts. per arrival and realised on an average 18s. 6¾d. per cwt. All the fish, except a few consumed locally, were consigned fresh to Glasgow, Inverness, Invergordon and London.

Line fishing was prosecuted more or less from all the creeks in the district, but the total quantity of line fish landed for the year was 919 cwts. less than the total for the previous year. Haddocks accounted for about 60 per cent. of the total quantity landed and were of good quality, mainly medium and large sized fish. During the summer months good prices were obtained by the Cromarty and Saltburn fishermen, who sold their catches to H.M. ships in Cromarty Firth. For the remainder of the year prices per cwt. ranged from 30s. to 40s. according to the supply. Catches varied from 1 to 3 cwts. per arrival, averaging about 1½ cwts. As boats are small, operations were often hindered during the latter months of the year by stormy weather.

Good supplies of plaice were landed during February, March and April.

The principal fishing grounds for haddocks were from 1 to 4 miles off the "Sutors," for cod off Tarbat Ness and in Cromarty Firth, and for plaice in Dornoch Firth. The bait used was mussels and "buckies," which were procured free of cost from the adjacent beds.

Crabs and lobsters are not plentiful in this district, being found chiefly in the northern section.

Six boats of 25 feet keel were built at Avoch during 1920 for small drift-net and line fishing, at an average cost of £260 each. Four of these were fitted with motor engines at an extra cost of £240 each.

One steam drifter was acquired by an Avoch crew and prosecuted the herring fishing off the East Coast and at Lowestoft. At the latter fishing the earnings of the crew amounted to about £1500.

Fortunately there was no loss of life at sea, nor any damage to boats and gear.

ALEX. STEPHEN,  
*Fishery Officer.*

FISHERY OFFICE,  
CROMARTY, 9th January 1921.

#### *Helmsdale District.*

Throughout the year no change of any importance took place in connection with any of the branches of the fishing industry carried on in this district.

The fish landed, exclusive of shell-fish, amounted to 17,415 cwts. valued at £22,602, showing decreases of 2666 cwts. and £11,171 respectively as compared with the previous year. To a great extent the failure of the cod-net fishing is accountable for the decrease in quantity, while the great difference in value is chiefly owing to the higher prices obtained for fish during 1919. The average price for fish, exclusive of shell-fish, during 1920 was 26s. per cwt., while in 1919 and 1918 the average prices were 33s. 7d. and 49s. respectively. Fish prices are no doubt less here than would be the case if the neighbourhood were more thickly populated. As it is, however, practically the whole of the landings are despatched to the southern markets, and of course all ensuing charges, such as railway freights, commission, etc., adversely affect the price which the fishermen receive. In fact it sometimes happens, principally during the summer months when the demand is slack, that

fishermen sending fish to the markets on their own account receive less than sufficient to pay the cost of carriage. The lack of haddock curing firms in the district is another adverse factor, as during the warm weather deterioration has often set in by the time the fish have arrived in the markets, with a consequent depreciation in value. Towards the end of the year, however, one firm commenced curing operations in Brora, and another was preparing to start in Helmsdale. It is to be hoped that the fishermen will derive some benefit from their operations.

While the landings of white fish show a decrease, a substantial increase in the landings of shell-fish has to be recorded, the increase in value on last year being £1324. This great increase is almost entirely due to the success of the lobster fishing prosecuted in the spring and summer months from Helmsdale, and to a less extent from Brora and Dunbeath. From Helmsdale 8 small boats, both motor and sail, were engaged at this fishing from April to June, and with better success than was attained by the boats working lines.

Small-line fishing, the most important branch of the district fisheries, was carried on together with hand-line fishing almost continuously throughout the year, when weather conditions were favourable. Results, however, were not very remunerative, especially when the high cost of bait, fishing gear, and the running expenses of motor boats are taken into consideration. At both Helmsdale and Golspie, the small-line fishing is engaged in almost entirely by motor boats, the small sail boats being mainly used for hand-line fishing. At the other creeks, however, the sail boats are still in the majority. As usual the small-line fishing was most successful during the first and last quarters of the year, and again motor boats contributed by far the larger proportion of the landings. The principal kinds of fish landed were haddocks, codlings and plaice, although very few plaice were landed except at Embo.

The cod-net fishing commenced during the last week in January, and continued right on until the end of April. In addition to about 30 local boats, 4 stranger boats took part in the fishing, but although the fleet was considerably larger than in the previous year landings were very much less, and the value for the season amounted to only £2649 as compared with £5840 for 1919. Most of the fishermen here attribute the scarcity of fish on the grounds to the prevalence of westerly winds during the winter. The fishing besides being a failure was unfortunately attended with considerable loss of fishing gear, in some instances whole fleets being lost. Trawlers were alleged to have caused the damage, but in no case could evidence be obtained against any particular vessel.

There are now very few 1st class boats and only 1 steam drifter belonging to this district. The steam drifter, 2 large motor boats, and 2 large sail boats prosecuted the herring fishing at Wick, but except in the case of 1 Dunbeath motor boat which grossed over £1500, earnings were not very high. One of the sail boats had grossed only about £120 when loss of fishing gear caused the fishermen to cease operations. In addition to the above, 12 small motor boats and 8 small sail boats engaged for some time in herring fishing from the various creeks in the district, but chiefly from Helmsdale and Dunbeath. Four of these motor boats were for some time on the West Coast, but met with very poor success. The total quantity of herrings landed in the district was greater than for some years past, and amounted to 595 crans valued at £1281. Part of the herrings were "freshed," and 316 barrels were cured for disposal locally. These were mostly cured by crofters and the fishermen themselves. A few barrels were cured by a local curer, but owing to the small size of the herrings were not presented for acceptance under the Government Guarantee.



Only one steam drifter manned by local men took part in the East Anglian fishing, but a considerable number of district fishermen were engaged as hired hands on board vessels belonging to other districts. The average earnings of the hired hands were about £35. About 100 women workers from the district were employed at this fishing, and about the same number were employed at the various centres, chiefly at Wick, during the summer herring fishing.

Two steam drifters owned in the district were sold in the spring and left the district for Spain. Five 2nd class motor boats, two of which were new, were added to the motor fleet, making in all a total of 41 motor vessels now belonging to the district. There is little likelihood of the number of sail boats in the district increasing, and it is very questionable whether any of the large sail boats will again participate in a herring fishing. The number of district fishermen has decreased to some extent owing to the fact that some of the young Embo fishermen emigrated during the year to the Colonies and to America. Through lack of proper harbourage, this creek offers very little inducement to the young fishermen to remain, and for a similar reason the increase in the number of motor boats has been considerably retarded.

A class for the teaching of navigation was formed in Helmsdale during October, this being the first class of the kind for five years. Twenty-two young local fishermen were enrolled and satisfactory progress was made.

Save for a few half-barrels which were made in Golpsie, barrel-making was confined to one cooperage in Helmsdale, where four coopers were employed for the greater part of the year.

Happily no lives were lost at sea during the year, but in the beginning of October two Embo fishermen who had proceeded a few miles from the village to gather willows with which to make creels and baskets were unfortunately knocked down and killed by a railway train.

The damage to fishing gear was considerably greater than in 1919, on account of the loss and destruction of so many cod-nets.

Although for the fishing industry as a whole future prospects are meantime anything but bright, this district, being essentially a line fishing centre, is not likely to feel the effects of a herring fishing failure, if such should happen, to the same extent as those districts to which that fishing is of vital importance. Little improvement in the position of the fishermen, however, is to be looked for so long as the cost of living and prices for fishing gear, bait and other accessories remain at their present high level.

JOHN BUCHAN,  
*Fishery Officer.*

FISHERY OFFICE,  
HELMSDALE, 19th January 1921.

#### *Lybster District.*

During the year 1920 the fishermen of Lybster district were employed chiefly at haddock and hand-line fishing. Line fish were fairly plentiful, especially in the last quarter of the year. Six motor boats were employed in the district, of which four belonged to the fishermen and two were hired by Lybster crews from Wick owners, and these accounted for 65·4 per cent. of the total quantity of fish landed. A considerable number of the fishermen are crofters, who do very little at fishing except with hand-lines during the summer months.

There are now no fishing boats over 45 feet of keel in the district,

and the means of capture returns exhibit no changes of any consequence when compared with those of the year 1919.

The total quantity of fish landed in the year 1920 amounted to 4701 cwts. valued at £4732, as against 3074 cwts. valued at £4350 in the preceding year.

In August a fine shoal of herrings visited Latheron Bay, and for five weeks provided remunerative employment for the majority of the fishermen. The fleet engaged in this inshore drift-net fishing was composed of 6 small motor boats and 12 small sail boats. The herrings were landed chiefly at Lybster and at Wick. The gross earnings of the most successful crew amounted to £400, while those of the others varied from £15 to £300. Of the herrings landed at Lybster, 398 barrels were cured gutted, and of these 290½ barrels, chiefly matties and matfulls of very fine quality, were handed over to the Board under the guarantee.

The average prices of the principal kinds of fish landed in Lybster district were:—

	Year 1920.		Year 1919.	
	s.	d.	s.	d.
Herrings—per cran . . .	42	7	35	3
Codlings—per cwt. . . .	22	8	34	9
Haddocks—per cwt. . . .	26	3½	29	3½

In October a crew of Lybster fishermen proceeded to the West Coast in their small motor boat, and for eight weeks engaged in herring fishing in the lochs of Skye. Herrings were plentiful, but during the greater part of the season they were of very little value. Fishermen had sometimes difficulty in selling them at 5s. per cran. The earnings of the Lybster crew amounted to little more than sufficient to clear the working expenses.

In the summer a large shed near the harbour of Lybster was converted into a kippering establishment, with kiln capacity sufficient to deal with about 30 crans daily. The curer who has fitted out this establishment also intends to carry on a business in smoked haddocks and codlings. This kippering business, added to the one previously opened at Lybster, will provide increased employment especially for women workers. The herrings kippered at Lybster were usually brought by rail from Wick. In 1920 the total output of kippers from Lybster amounted to 16,700 one-stone boxes.

In the spring months 4 coopers were employed at Lybster making barrels. The total quantity manufactured amounted to 2400 barrels and 350 half-barrels.

It is ten years since the Lybster harbour was last cleaned out, and it has become very much silted up with sand, which has been carried down the burn into the basin. When the water was lower than half-tide, this accumulation of sand prevented the larger of the boats from getting to the pier, and when there was depth of water sufficient to float them to the pier, they took the ground when the tide receded. Thus the work of the fishermen was rendered difficult and fishing operations were greatly restricted. If cleaned out, this harbour would be an excellent one from which to carry on inshore fisheries by small motor boats.

ALEXANDER WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
WICK, *February 1921.*



*Wick District.*

The total quantity of net and line fish landed in Wick district in the year 1920 amounted to 559,629 cwts. valued at £418,574. The quantity exceeded by 67,748 cwts. the average results obtained in the fifteen years 1900 to 1914, and the value, when compared with that of the year 1919, which was the highest recorded in the books of the district, shows an increase of £144,234. The value of shell-fish landed in the district in the year 1920 amounted to £6341, which figure has only once been exceeded during the preceding twenty years, viz. :—in the year 1902, when the value was £6757.

Compared with those for the year 1914, the means of capture returns for the year 1920 show an increase of 53 in the number of motor boats, but decreases of 7 and 75 respectively in the number of steam drifters and sail boats. During the period since 1914 a large number of sail boats of all sizes, belonging to Wick district, have been equipped with motor engines, while many sail boats, being unseaworthy, have been broken up. Except at the smaller creeks of the district, sail boats are now seldom used. From the year 1914 to the year 1920, 6 steam drifters belonging to Wick district were sold and went to other districts in Scotland and England, and 4 were lost, and only in 3 cases were these replaced by the purchase of other vessels. In the year 1914 the Wick herring fleet consisted of 23 steam drifters, 19 motor and 41 sail boats, as compared with 15 steam drifters, 32 motor and 4 sail boats in the year 1920.

The winter herring fishing is an important one in Wick district. In the year 1920 this fishing was begun on 1st January by a few boats, whose immediate success speedily attracted a fleet of considerable dimensions. When the fleet was at its largest, it consisted of 140 steam-drifters, mostly of the best class, and 24 motor boats. The fishing grounds situated off the North Coast, between Strathy Point and Cape Wrath, were well stocked with fish, and on these grounds the fleet operated throughout the season. The weather was often too rough and stormy for the motor boats and small steamers, but the crews of the larger vessels carried on the fishing with great regularity, and in most cases secured a rich harvest. Among the outstanding features of the fishing were a large number of heavy individual shots, and the high daily average catches. The highest shot, 227 crans, was landed by the steam-drifter George A. West, B.F. 544, on 30th January, and on that day 29 vessels landed at Wick an average of 84 crans. After 14th February the stranger crews began to leave for home, and on 6th March the season closed with a total catch of 55,088 crans valued at £144,958. Of the total catch 43,404 crans were landed at Wick, and 11,684 crans at Scrabster. In general the quality of the herrings was excellent. Prices ranged up to 98s. per cran, and the average price was 52s. 7½d. per cran. Owing to the rough weather experienced, especially in February and March, and to the weight of the shots, there was a great loss of fishing material, and thus, although the general results of the fishing were highly satisfactory, many of the crews engaged had a most unprofitable season. This applies particularly to the smaller of the steam-drifters and to practically all the motor boats. As to the disposal of the catch, 30,400 crans were sent fresh, and 17,700 crans kippered to the south markets, while 1210 barrels were cured gutted and 8640 barrels ungutted. The demand for cured herrings was poor, and a large percentage of the winter cure had to be kept on hand until the end of the summer season, when they were disposed of at low prices, which meant a considerable loss to the curers.

In the early part of the season kipperers and dealers in fresh herrings secured fine profits, but later the south markets were over supplied with herrings from the North of Scotland and also from Norway. Prices at those markets fell, and on their consignments the kipperers and freshers lost as frequently as they profited. For them, however, the season as a whole was a profitable one.

All bunker coals had to be sea borne, and the coal merchants appeared to have difficulty in securing tonnage sufficient to supply the requirements of the fleet. On several occasions the local supplies were exhausted, and a number of the steam-drifters, failing to replenish their bunkers, were unable to proceed to sea. On one occasion, in order to keep the fishing going, the Town's reserve stock of household coals had to be utilised.

While the winter fishing was in progress, the inadequacy of the railway facilities to deal with the catch, *i.e.* the need for increased loading accommodation at Wick station, and for a double line between that station and Inverness was very apparent. There was also a great shortage of fish trucks. These conditions were the cause of constant anxiety and of considerable loss to the senders of fresh herrings and kippers, and until better facilities are provided, there can be no development in the freshing business done at Wick during the winter fishing season.

In March, having finished the winter herring fishing, 8 local crews of motor boats commenced and for five weeks carried on cod-net fishing in the Moray Firth. These crews met with little success. Cod were scarce, stormy weather hindered fishing operations, and compared with their landings in previous years stranger crews landed very few catches of net cod at Wick. The total quantity landed at Wick amounted to 1614 cwts. valued at £1897, as against 5846 cwts. valued at £12,033 in the year 1919, and 13,059 cwts. valued at £44,445 in the year 1918.

In the latter part of May and the first two weeks of June a small fleet of 54 steam-drifters and motor boats engaged in the early summer fishing and landed their catches at Scrabster. At this fishing the principal fishing grounds were from 8 to 14 miles W. of Hoy Sound, and from 12 to 25 miles N.E. of Sule Skerry. In June some fine shots ranging up to 100 crans were secured on the Sule Skerry grounds, and shots up to 25 crans on the grounds off Hoy Sound. The fish were of good quality and commanded high prices, principally for kippering purposes. Prices ranged from 49s. to 135s. per cran, the average price being 84s. 3d. per cran. The total quantity landed at the early fishing amounted to 3740 crans, and the value of the catch to £15,582.

On 9th June it became known that the Government had refused to give a guarantee for the summer herring fishing. The fishermen met at Scrabster and carried a resolution to suspend all fishing operations until the Government should reconsider their decision and give the guarantee asked for. Accordingly on that date the early fishing came to an end, and fishing operations were not resumed until under the Government Guarantee Scheme the summer herring fishing began on the East Coast on 24th June. A fleet consisting of 170 steam-drifters, 70 motor boats and 4 sail boats commenced the fishing at Wick. On the first two days of the season the landings were heavy, amounting in the aggregate to 9543 crans. The curers at that time were not prepared to deal with such heavy supplies. A large number of their women workers had not arrived, and others for one reason or another were not available until 1st July. Consequently on each day it was found necessary to rouse about one-fourth of the catch. Judging from the first two days of the fishing, the trade came to the conclusion that herrings were plentiful, and that



the season's catch would be heavy. Curers did their best to get their staffs of workers up to the full strength and to engage as many extra women as could be got. By the end of the following week they were fully prepared for heavy landings, which, however, were never made during the remainder of the season. The fleet increased until it consisted of 275 vessels, mostly steam-drifters, and fishing operations were regularly carried on within a wide area, but every week a light fishing had to be recorded. The total quantity of herrings landed at Wick coming under the Guarantee amounted to only 82,308 crans, or nearly 10,000 crans short of the quantity landed during the corresponding period in the year 1919, when the fleet of boats and the number of shore workers were little more than half the numbers employed in the year 1920. For the light supplies the demand was keen, and prices, except for the first two days, always exceeded the minimum of 45s. per cran which the scheme allowed. The average price was 49s. 5½d. per cran, and the total value of herrings landed coming within the scheme amounted to £203,586.

A large number of the stranger boats did not confine their operations to Wick fishing areas, but landed many of their catches at other ports, Fraserburgh, Buckie, Lerwick and Stornoway. It was thought, however, that those of them which remained with the Wick fleet obtained the best results. The gross earnings of the local craft, viz.:—19 steam drifters, 32 motor and 3 sail boats, varied greatly, but on the whole, considering the season, they did well:—

Steam drifters from	£915 to £2132,	average	£1165.
Motor boats	„ £650 to £2091	„	£936.
Sail boats	„ £375 to £500	„	£400.

Of the total quantity landed under the Guarantee Scheme 88,339 barrels were cured gutted, 11,000 crans were kippered and 730 crans were freshed. Kipperers had a good season, but with their high expenses and low output curers who succeeded in realising any profits were in the minority. Out of their total cure the fishcurers of Wick district handed over 78,613½ barrels to the Board under the Guarantee.

The scheme proved a great blessing to the trade, and although fishermen and curers expected more out of it than was obtained, the short catch, seeing that cured herrings proved so difficult to dispose of, was more in the interest of the industry than a heavy catch would have been. So far as Wick district was concerned the machinery of the Government Scheme worked with great smoothness. Of cured herrings taken over by the Board 32,342½ barrels remained on hand in Wick district when the year closed.

Twenty-nine local crews in 15 steam drifters and 14 motor boats engaged in the East Anglian herring fishing. This fishing season was of short duration, and it will be long remembered by the fishermen, because of the fineness of the weather experienced during its progress. The gross earnings of the motor boats were almost equal to those of the steam drifters, the range being from £500 to £1535 and the average for the 29 vessels £913.

The average prices obtained by the line fishermen for the principal kinds landed in Wick district were, cod 21s. 9d., haddock 19s. 1½d., halibut 90s. 6½d. and skate 17s. 10½d., all per cwt.; as against cod 34s. 8d., haddock 20s. 10½d., halibut 109s. 8½d. and skate 23s. 0½d. in the year 1919.

Lobsters and crabs were more plentiful than usual, and the returns of these shell-fish show, as compared with those of the year 1919, a large

increase in the quantity and value of each kind. The average prices were, lobsters 1s. 8½d. each and crabs 2½d. each, as against 1s. 10¼d. and 2¼d. respectively in the year 1919.

By the renovating and rebuilding of a number of kippering premises the kippering capacity was greatly increased. At the close of the year a kippering establishment capable of dealing with 90 crans daily was being built at Wick for a Peterhead curer. The total quantity of herrings converted into kippers in Wick district during the year 1920 amounted to 39,617 crans.

Arrangements were made for re-opening in 1921 the factory at Wick for the manufacture of "Marvis," which is made from fillets of cod fish. By a process of crushing and drying these are reduced to the form of meal or powder, yielding an easily prepared, palatable and nutritious food, which is put up in packets like cornflour. The Marvis Company also intend to specialise in other foods manufactured from herrings and certain other fish which are put up in tins. Machinery for making the tins has been fitted up in the Company's commodious factory.

Owing to the high cost of production and to the considerable stocks of empty barrels left on curers' hands as a result of the shortage in the summer herring catch, the number of barrels constructed was comparatively small, and there was some unemployment among coopers.

At Wick 7 basket makers were kept more or less regularly employed, chiefly making herring baskets. In December the price of the quarter-cran basket dropped from 10s. to 8s. 6d.

A 40-foot boat was built at Thurso and equipped with a 25/30 hp. "Kelvin" motor engine. The boat is to be used at that creek for line and drift-net fishing.

In January the motor boat "Briar," W.K. 343, was totally wrecked when attempting to enter Wick harbour in stormy weather with a shot of 120 crans of herrings. In October the S.S. "Fidelia," W.K. 563, when engaged in the Yarmouth herring fishing sank as a result of a collision with another drifter. No lives were lost.

The fishery barometers lent by the Meteorological Society to certain of the fishing communities continue to be well kept and are highly appreciated.

Government Schemes have so far kept the herring fishing industry going, but at the close of the year 1920 the outlook for the future of that industry is very dark. The gloomy prospects are largely due to the mistake made in greatly increasing the catching power when the state of the principal markets for cured herrings called for a great reduction. If, instead of manning steam drifters and motor boats, fishermen had been able to revert, for a few years, to the use of the old lugger, the prospects, so far as fishermen are concerned, would have been much more hopeful. It appears that the only remedy for the present troubles is to lay up a large number of the steam drifters and motor boats, and to endeavour to regulate the output to the needs of the available markets. It is to be hoped that the Government working in conjunction with the trade may be able before the time comes for commencing the summer season of 1921 to make arrangements which will enable exporters to carry on a safe business in cured herrings with Russia and Germany.

ALEXANDER WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
Wick, February 1921.



*Orkney District.*

The outstanding event in connection with the fisheries during the year under review was the revival of the herring fishery, which had been entirely suspended during the war years and of little account in 1919. The importance of this branch of the industry may be judged from the fact that, notwithstanding the comparative failure of the summer fishing, herrings accounted for 92 per cent. of the total quantity and 86 per cent. of the total value of fish landed, thus resuming their accustomed pre-war position in the district returns.

The total quantity of fish landed (exclusive of shell-fish) was 99,388 cwts. valued at £72,087, as compared with 15,283 cwts. and £18,053 in the year 1919. Including shell-fish, the total value amounted to £82,177, an increase of £56,220 on the figures for the preceding year.

The catching and curing of herrings in Orkney district under the Government Guarantee Scheme was confined to one centre, namely Stronsay, but operations were conducted on a much smaller scale than in pre-war years. Early in June, being confident that Government assistance would be forthcoming, a number of curers put their stations in order, and imported supplies of salt and fishcuring stock. Considerable anxiety and uncertainty prevailed when the first proposed scheme was rejected by the Treasury, and, pending the result of further negotiations, the curers cancelled the arrangements they had made for the transport of their workers. The welcome announcement that the amended scheme had been approved by the Treasury was the signal for renewed activity; curing staffs were hurried to the scene of operations, while a number of East Coast boats arrived to take part in the fishery. At the commencement of the fishing eleven stations were open. Two weeks later three more curers arrived, making in all 14 firms employing 146 crews of gutters and packers, most of whom were young and inexperienced. In 1914 there were employed in the district 346 crews of skilled women workers.

An auspicious start was made, the landings during the first few days usually exceeding the working capacity of the shore staffs. On Wednesday, 30th June, the heaviest fishing of the season was landed, 147 arrivals having an aggregate catch of 3892 crans. This necessitated the closing of the port for the two following days, to enable curers to work up these excessive supplies. During the remainder of the season results were disappointing. Occasionally the fishermen located fair shoals, but as a rule the fishing was light and partial. The principal grounds were off Copinshay, and from 18 to 35 miles S.E. by E. to S.E. by S. from Stronsay.

During the first week the guaranteed price of 45s. per cran was the ruling figure for fresh herrings, while a large quantity was roused into barrels at 40s. per cran. With light landings prices gradually rose to upwards of 50s. per cran. At that figure curing was obviously unremunerative, and on 28th July the curers instituted a rationing scheme, with 47s. per cran as the maximum price for fresh herrings. This scheme caused great dissatisfaction amongst the fishermen, a number of whom left for other ports where higher prices were occasionally obtainable from freshers and kipperers. On 13th August, however, several curers broke away from the "ring," and the highest price of the season; 57s. 3d. per cran, was paid for a small take of good quality herrings. This virtually finished the fishing, as the majority of the curers immediately ceased operations, and cleared out the greater part of their staffs by special steamer on the following day. A few boats and curers continued to work until the Guarantee Scheme expired on

21st August, but with spent fish predominating in the catches, no attempt was made to prolong the season. The total catch amounted to 26,152 crans valued at £61,576, giving an average price of 47s. 1d. per cran. Fishermen had an unremunerative season, a number of crews failing to clear expenses. Steam drifters grossed from £500 to £1100, motor boats from £400 to £1050 and sail boats from £280 to £605.

The working of the Guarantee Scheme appeared to give general satisfaction. The regulations drawn up by the Local Committee were strictly adhered to by both fishermen and curers, with the result that there was an entire absence of friction. Catches were almost invariably landed early in the day, and in good condition, so that curers had no difficulty in producing a satisfactory article. The total cure amounted to 34,975 barrels, of which 33,426 barrels were accepted under the Guarantee Scheme, the remainder being chiefly Matjes and light cured La. Fulls and Fulls, which were shipped to America. Of the total quantity accepted, 30,934 barrels were Grade 1., 1049 were Grade 2, and 1443 were Grade 3. As there was little disposition on the part of the curers to evade the spirit of the scheme, the inspecting and taking over of stocks proceeded smoothly throughout the season. At the close of the year there were still on hand in the district 21,986 barrels of cured herrings belonging to the Government.

The results of the line fisheries compare unfavourably with those of the preceding year, there being a falling-off to the extent of 2401 cwts. in the quantity and £6136 in the value of line-caught fish. Few of the crofter fishermen prosecuted line fishing except when requiring supplies for family use, while stormy weather greatly hindered the operations of the regular fishermen. Practically all the line fish were consumed within the district, as also were occasional small landings from wind-bound trawlers. To meet the local demand, considerable quantities of smoked and cured dried fish were imported from Aberdeen, Leith and Lerwick.

Great success attended the prosecution of the lobster fisheries, especially during the summer and autumn months. All the grounds proved prolific, and prices were generally good. During the year 115,210 lobsters were landed and realised the sum of £9613, an increase of 30 per cent. in the number and 27 per cent. in the value as compared with the figures for the year 1919. The total value of shell-fish amounted to £10,090, as against £7904 in the preceding year.

During the year one large motor boat was transferred to another registry, and one small motor boat was lost. A motor coasting vessel was registered as a fishing boat; 3 motor boats of the second class were purchased from other districts; and motor engines were installed into 12 small sail boats belonging to the district. The motor fleet now numbers 55, as against 41 in the year 1919. The number of first class sailing boats in the district was still further reduced, 3 of these being cancelled, having become unseaworthy.

Orders for small-line fishing boats provided steady employment for boat-builders throughout the year, 35 boats of from 10 ft. to 22 ft. of keel being constructed within the district. Nineteen of these were built to the order of fishermen belonging to other districts, chiefly Stornoway.

An unfortunate accident, involving the loss of two lives, falls to be recorded. During a gale in November two Hoy fishermen observed that their motor boat, which was anchored off the shore, was in danger of being swamped by the heavy seas. They proceeded on board with the intention of shifting it to a safer anchorage, but while they were thus engaged the boat foundered, and both men were drowned before assistance could be rendered.

In addition to the above-mentioned motor boat, 2 small sail boats



were totally wrecked. The estimated loss of fishing gear, principally lobster creels, amounted to £257.

Although two years have elapsed since hostilities ceased, little has been done towards the re-establishment of the fishery interests belonging to the district. During the war a number of the largest and best equipped herring fishing boats were sold out of the district. These have not been replaced, the cost of modern fishing craft and gear being prohibitive, and only six district crews took part in the summer herring fishery. The local herring curers have not resumed their pre-war activities, while the curing of cod, ling, etc., which, prior to the war, was a flourishing industry, is now entirely neglected. The crofter-fishermen now direct most of their energies to the working of their land, giving little attention to the net and line fisheries. Lobster fishing, however, is still a popular method of supplementing their incomes, and is vigorously prosecuted during the summer months when the crofts require little attention. Altogether, the position of the fishery interests of the district is far from being satisfactory, and unfortunately there are no indications of any marked improvement in the immediate future.

ROBT. H. JOHNSTON,  
*Fishery Officer.*

FISHERY OFFICE,  
KIRKWALL, 21st January 1921.

*Shetland District.*

Herring fishing has been for many years the chief interest of the regular and crofter fishermen in Shetland district. The position of the local fishing industry and allied trades will therefore be readily appreciated in view of the state of the continental cured herring markets. The assistance given by the Government during the past two years has enabled business to be carried on to an appreciable extent, but towards the close of the year the large stocks of cured herrings on hand, and the announcement by the Government that no further assistance can be looked for, caused all those concerned to take a gloomy view of the immediate future. Especially was this the case with owners of steam-drifters and large motor boats. Working expenses were so high that they were perplexed as to what course of action they ought to pursue. Many will probably decide to give great-line fishing a trial for a longer period than usual, and if that fishing proves remunerative, and the demand for herrings is limited, they may continue to fish for long fish during the greater part of the spring and summer. The majority of the men who work sailing boats in summer have crofts, and meantime a good livelihood is being derived from that occupation. Even if they had perforce to allow their boats to remain on the beach they would be in a position to tide over one season. These men could, however, afford to catch herrings at a lower price than the crews of power-propelled vessels. West side and Lerwick regular fishermen who possess second class motor boats are in a position to make a living with lines and cod nets all the year round provided fish prices are maintained at a reasonable level.

The demand for herrings in winter and early spring last year was limited to the local kippering and freshing requirements, and only a small number of crews fitted out for that season. Herrings were abundant off Flugga, but weather conditions were exceptionally severe, and the crews engaged did not succeed in making the work remunerative.

In anticipation of the Government Guarantee, extensive preparations

were made at Lerwick for the summer herring fishing. Practically all the available curing stations were well stocked with barrels and salt, and the shore workers were well up to pre-war strength. Stations were opened also at Hoswick, Levenwick, Whalsay and Scalloway. Fishing was commenced at Lerwick and Scalloway early in June, but the fishermen at these places were induced by fishermen on the East Coast of Scotland to cease operations until the Government decision as regards a guarantee was announced. When operations were resumed at the end of June a well equipped fleet of 350 boats had assembled at the port of Lerwick.

While fishermen stood idly by in June they did not allow the possibility of a scarcity of herrings in July to enter into their calculations. Hopes were high, as the minimum price fixed under the Government Scheme admitted of the season's earnings being on a substantial scale. The fleet set to work on the usually prolific grounds south-east of Bard Head, but they found that the grounds were infested with dog-fish. These remained off the coast during the whole season. After a prolonged trial with meagre results, a number of steam drifters left for stations on the Scottish coast, and others went prospecting on the northern grounds off Balta and Fetlar. A dense shoal was located in these waters, but unfortunately the shoal though dense was not distributed over a wide area.

Many very heavy takes were secured, but it often happened that while certain boats netted up to and over 200 crans others in the vicinity got little or nothing. A considerable part of the season's catch came from these northern waters. Good catches were also secured occasionally in the waters round Fair Isle. The crews of local sailing boats fished persistently on the near grounds off Bard Head, and, until the last week of the season, when spents appeared there, earned little or nothing. For the week during which the Guarantee expired many crews earned as much as during all the preceding weeks of the season. The northern grounds were too far distant from Lerwick for sailing boats to work there. Although the summer catch of 1920 realised £30,000 more than the 1919 catch, the earnings in 1920 had to be divided among a much larger fleet.

In view of the meagre landings competition on the part of the curers was keen. Prices centred round 55s. per cran for a considerable time. About the end of July curers adopted a rationing scheme at 50s. per cran for good quality, 47s. 6d. for mixed, and 45s. for spents. This arrangement worked without a hitch and was adhered to till the close of the season.

The best fished local steam-drifter grossed £2200. That amount was considerably in excess of the earnings of any other local boat. English and Moray Firth drifters fishing at Lerwick during the whole season grossed generally from £750 to £2500. Motor boats had from £400 to £1100, and sailing boats from £150 to £700. One sail boat earned only £20.

A considerable part of the catch consisted of large empty herrings, or herrings with milt and roe partially developed. A small proportion only were full of milt and roe. The herrings were not so rich in fat as Shetland herrings often are, but it must be remembered that the June shoals, which are usually the richest, were lost.

Generally speaking the majority of the fishermen did little more than clear expenses. Many steam, motor and sailing boats incurred a loss on the season's work. If the shoals had been uniformly distributed over the areas usually fished fishermen could not have failed to have a profitable season. The shoals were unusually sporadic, and fishermen



were inclined to attribute this unfortunate circumstance to the presence of large numbers of dog-fish off the coast. The sea to the south and east was also swarming with *salpæ*, and an abundance of these is looked upon as a sign of dearth of herrings.

Curers had little or no profit and female employees earned less than usual. Altogether the season of 1920 will be remembered by all concerned as one of the most disappointing within recent times.

Close on 24,000 barrels of matjes, large fulls and fulls in half barrels were sold to American buyers. Good matjes realised from 75s. to 80s. for two half barrels, and large fulls and fulls from 65s. to 76s. The greater part of the remainder of the season's cure was handed over to the Government.

Large stocks of barrels were left on hand, and consequently a number of coopers found difficulty in obtaining employment, but at the close of the year the majority had got work. The stoppage of machinery in the barrel factories threw many workmen out of employment. At the end of the year the factory stores were full of barrels, and the output per man from the cooperages has been reduced below the 1919 standard.

Great-line fishing was prosecuted at Lerwick, Dunrossness and Scalloway in spring and early summer. Long fish were not so plentiful as usual off the Shetland coast, and results were below normal.

The chief centres from which haddock fishing was carried on were Scalloway, Lerwick, Whalsay and Skerries. Haddocks were fairly plentiful, especially during the closing months of the year, but returns from Aberdeen market were barely sufficient to leave a living wage to the crews of motor boats, of which over 30 were at work. The quantity of haddocks landed in the district was 15,180 cwts. valued at £14,672, against 21,430 cwts. valued at £44,485 in 1919. A record catch of 52 cwts. of haddocks was landed by a Burra Isle motor boat on one occasion in December.

Sixteen motor engines were installed in 1st class boats during the year. Three 2nd class motor boats were burnt or wrecked. The motor fleet belonging to the district now numbers 70 boats.

Apart from the depressed state of the cured herring trade and its bearing on herring fishery interests, the factors which were causing most concern at the close of the year were the high cost of coals, oils and fishing material generally, coupled with the comparatively low level to which the price of fish had fallen. Fishermen who have motor engines in their haddock boats are finding that they cannot afford to consume oil, and are in some cases using their engines only on rare occasions. The high freight rates charged for the conveyance of ice to the district and of fish to Aberdeen reduces the value of white fish locally. The smoking of haddocks has been commenced at Lerwick and Whalsay, and this may enable fishermen at these places to secure better returns for their labours.

ALEXR. E. M'KENZIE,  
*Fishery Officer.*

FISHERY OFFICE,  
LERWICK, 8th January 1921.

#### *Stornoway District.*

A noticeable feature in connection with the fisheries of this district is the decreased number of firms who now frequent the port of Stornoway as compared with former years, especially those whose business it is to supply the home markets with herrings during the regular seasons.

This decrease is no doubt due to the high cost of freight and other expenses, which have become so heavy in the working of the more remote stations. In other respects the advantages derived from carrying on business at ports near a rail head are considerable, and in these days, when the majority of fishing vessels are fitted with motive power, there is a growing tendency to use such ports, and this will undoubtedly have an adverse effect on the prosperity of the fisheries of this district.

Although three steam drifters were added to the fleet during the year the number belonging to the district still remains the same as last year, for one vessel was lost in local waters while engaged at the summer herring fishing, and other two were totally wrecked on their way to Yarmouth to take part in the herring fishing from that port. Fortunately no loss of life took place in either case, and the crews were able to save their gear.

The number of motor boats has been increased by five, and seemingly there is a desire on the part of owners of half-sized boats to obtain motor engines, but the question of finance has hitherto been the great drawback.

Altogether 26 first class sail boats remain on the register for the district, being five less than last year. In the course of the year quite a number of small-sized Orkney built boats were acquired by local crews, while considerable repair work was executed on many of the older second and third class boats which had been lying unused for a few years previously.

Compared with the preceding year the total quantity and value of fish landed in the district show decreases of 43,313 cwts. and £96,464, which are chiefly accounted for by the decreased landings of herrings during the winter months, and the lower prices ruling for fish of all kinds. The usual winter fishing commenced in earnest in January, and was engaged in by a large fleet until near the end of February. Despite the fact that fishing operations were conducted over a very wide area herrings were not in great abundance, and in addition the quality was generally poor. The presence of mackerel on the grounds was another feature usually considered adverse to herring fishing. Bad weather hampered the movements of the fleet to a considerable extent, and loss of nets was of frequent occurrence. As a general rule the best catches were secured in the vicinity of Cape Wrath. The greater part of the catch was kippered and freshed, and the quantity cured for export, especially ungutted, was very much less than in 1919.

The resumption of herring fishing in May saw the arrival of a number of stranger crews, who along with the local fishermen continued fishing until early in June. Up to that time good prices were paid for the herrings, but one day a heavier catch than usual arrived and prices dropped to £1 per cran. The agitation for Government assistance was then at its height, and acting on advice from the East Coast, stranger crews abandoned operations and left for home. Local crews also seemed inclined to stop fishing, but on kippering firms agreeing to pay 50s. per cran for a certain quantity of herrings, operations were continued without interruption. When the Guarantee Scheme was approved by the Government all the stranger kippering firms took their departure for the East Coast, and the disposal of the catch then depended almost solely on the curers. In view of their experience of former summer seasons, no great preparations had been made by the local curers to cope with even a moderate day's fishing. Very few had any gutters engaged until June 26th, when the arrival of the boats with good catches encouraged them to look out for workers. On the date referred to over 1000 crans were landed, and in consequence of the shortage of labour about 400



crans had to be roused in barrels. The situation improved during the following week, when several stranger curers opened up their stations, and as women workers were in due course prevailed upon to come along from the country districts there was soon enough labour to handle a fairly decent catch. Towards the latter end of the season there were two occasions on which the curing strength of the port was taxed to its utmost. However, the difficulties were eventually overcome without imposing any restrictions on the movements of the fleet.

The quality of the herrings landed throughout the whole season was generally good. In fact about the middle of August some exceptionally fine herrings were obtained from the grounds situated off Lochmaddy, where dense shoals were located by East Coast drifters, attracted by reports of good prospects on this coast.

All sections of the trade appreciated the timely aid granted by the Government, and rendered every assistance towards the smooth working of the Guarantee Scheme.

During the period that the scheme was in operation 27,580 crans valued at £69,638 were landed at Stornoway, while the total for the whole district amounted to 30,208 crans valued at £75,209. The number of barrels of herrings cured in the district for the same period was 35,446, of which 22,347½ barrels were taken over by the Government. The balance consisted chiefly of matje cured herrings, which were disposed of by the curers at remunerative prices to American buyers.

Local fishermen who fished in home waters had no reason to complain of their earnings from the summer herring fishing. Steam drifters were reported to have grossed from £1700 to £2800; motor boats from £700 to £1600; and sail boats from £400 to £1300. Hired fishermen who were engaged at the East Coast experienced a bad season, and had little or no earnings to bring home.

Apart from occasional landings of great-line fish at Stornoway during the spring months, lining is practically confined to the outlying creeks, where in the absence of a regular market there is no inducement to fishermen to engage in its prosecution so actively as they might do under more favourable circumstances.

At several creeks in Lewis and Harris lobster fishing is of no little importance, and this was vigorously carried on for a considerable part of the year. However the demand in southern markets seemed less keen than in former years, and consequently prices at certain periods were often not too remunerative.

The partial stoppage of Lord Leverhulme's scheme of improvements in the earlier half of the year was a source of keen disappointment to the greater number of the inhabitants of Lewis, but now that efforts are being made to settle the differences which occasioned such a drastic step it is to be hoped that the near future will see the works restarted. Perhaps from a fishery point of view the completion of the canning factory is the most important, as once in working order it would deal with large quantities of fish, and for a district remotely situated from the fish consuming centres any additional outlet for the catch is of no little advantage. It is expected that the factory will be ready in time to commence canning operations next summer. An ice factory is also in course of construction in conjunction with the canning factory, and the machinery is now being installed.

The more recent improvements undertaken at Obbe, Harris, were proceeded with during the year without any interruption. In addition to the building of a pier quite a number of neat detached houses are in course of erection, presumably with the idea of attracting crofter fishermen to settle at Obbe.

As matters stand at present the fishing industry is faced with anything but a hopeful outlook. The situation has been slightly relieved since the monopoly of importing herrings into Germany was abolished, and curers have already been sending consignments of their winter cure to that country from this district. Unless there is a rapid improvement in the rate of exchange with Continental countries it may be assumed that curers will only conduct operations on a very modified scale during the coming year. Since large numbers of fishermen and fish-workers from the district find seasonable employment every year at other centres, it can easily be understood to what extent hardship will prevail here should a curtailment of the herring fishing be necessary.

JAMES WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
STORNOWAY, 12th January 1921.

*Barra District.*

The returns of the fisheries of this district show a large increase over last year's. The increase is chiefly in herrings, being 61 per cent. in quantity and 120 per cent. in value. There is an increase of 30 per cent. in the number of lobsters landed, but the value is almost similar to last year's. Compared with 1914 the landings of white fish show a decrease of 7089 cwts., but an increase in value of £10,047; the comparative differences are chiefly in herrings, which are 6411 cwts. less, but £8284 more.

The only variations in the means of capture as compared with the preceding year were decreases of 3 boats and 50 tons. Two first class motor boats were driven from their anchors and totally wrecked by a gale on November 10th, and 2 second class motor boats were sold out of the district. One first class boat was purchased in place of one of the second class boats sold. On the register there is a decrease of 1 first class boat and 6 second class boats, but an increase of 3 third class boats. There were no installations of motor engines during the year.

During the winter months, owing to the exceptionally bad weather, the herring boats were only a few times at sea. The landings for this period totalled 419 crans, value £528, against 2046 crans, value £3555, in the corresponding season last year.

The spring herring fishing commenced on the 11th May with 25 steam drifters, and the local motor and sail boats. There were 12 curing stations open, against 9 last year. From the commencement till the end of June herrings were scarce and of poor quality. Mackerel and basking sharks caused considerable damage to nets, and as the drifters were scarcely earning sufficient to pay their running expenses, they left for the East Coast. The landings for this period totalled 3390 crans at an average price of 45s. per cran. With the continuous light fishing on the East Coast the same steam drifters returned to Castlebay and were well repaid. For the summer they all grossed over £1000, and the most successful £2300. For the early and late seasons the landings totalled 11,183 crans, value £28,633, against 4991 crans, value £9579, in the corresponding period last year.

In the midst of all this fishing the local boats barely earned sufficient to pay their expenses. They persisted in fishing close inshore where the sea was "dirty," and to the North—off Locheynort—where the herrings were of poor quality. Their gross earnings ranged from £133 to £300,



averaging £230, from which has to be deducted close on £100 for paraffin and oil. The local merchants own most of the boats, and they intend selling them as soon as possible. The Eriskay fishermen, who own their boats, had a very successful year. During the summer the 8 boats averaged £420 gross; and since October at the Skye Lochs, while 2 grossed £800 each, the others ranged from £400 to £700.

Over the period May to August the curers had a very successful season. The average price paid by them was 51s. 6d. per cran, while they were selling the cured article at 80s. to 85s. per two half-barrels of large matjes, and 60s. to 65s. per barrel of medium matjes. The total cure amounted to 15,636 barrels, compared with 7414 barrels in the same period last year.

The prospects for the ensuing summer season are favourable in this district. During the last two years curers have had very profitable seasons, and they have increased their staffs by 50 per cent. for the coming summer. The same curers have reduced their staffs on the East Coast. Three curers who had not opened their stations since 1914 are likely to commence this year, and two others are negotiating for stations. The fishing grounds, being only a short distance off from Castlebay, are easily and economically worked by steam drifters, which also have had two good seasons on the West Coast, and intend returning in 1921 to work from Castlebay and the Minch rail head ports. The herrings caught around these islands are superior to those caught on the East Coast and are preferred in America, where the whole of the past two years' cure has been disposed of by the curers without Government aid.

Although the landings of long fish were almost doubled compared with last year, the total cured was slightly less. The difference in the quantity cured was due to the falling off of the ling fishing at Eriskay, the principal curing station in the district. The increase in the landings was due to the landing by steam drifters and boats, in the summer of cod and saithe caught by hand-line. These fish were all used fresh locally. A small but productive shoal of haddocks was discovered about the beginning of August in Castlebay, where it remained until the middle of September. Small boats with three and four hand lines were getting up to 3 cwt. for a few hours' fishing; 240 cwt. were caught off this spot in the short time the fish were on the ground.

Flounder and plaice fishing is prosecuted throughout the district, and the landings were almost similar to the previous year's. These are caught for home use and to bait lobster creels.

A large increase in the lobster fishing took place at Lochboisdale and Barra in the south district. More crofter-fishermen are taking up this branch of the fisheries, as it is conveniently worked along with a croft and entails little expense for the necessary gear, while the lobsters—small in bulk for their value—are easily transported from the outlying creeks to the steamer ports of call. The advent of a motor boat calling at the creeks to buy the lobsters on the spot gave an added incentive to the more diligent prosecution of the fishing.

Little or no advantage was taken of the Government Scheme for pickled herrings. The curers paid higher prices than the minimum all the season, and were able to dispose of almost the whole cure at considerably higher prices than those offered under the scheme. At its closing date, the American market had collapsed, and the curers handed over the 533 barrels they had on hand, being only 3 per cent. of the season's cure.

There was an increase of 23 crews of women employed locally compared with the preceding year. Their earnings averaged £22 per woman, compared with £15 in 1919. Thirty-five crews were at various

ports on the East Coast. They had 20s. per week as wages, but had a very poor season, barely averaging 12s. per week for piece work and time work combined. Eighty crews went to the East Anglian fishing, where their earnings ranged from £92 to £103 per crew, compared with £60 to £75 per crew in 1919.

One cooper was employed in the district during the winter and made 464 half barrels.

Fortunately there were no lives lost in connection with the fisheries during the year, and the loss in gear was comparatively light.

The fishery baragraph at Lochboisdale is kept in good condition, and is much appreciated by the fishermen of the creek.

A. M. M'KENZIE,  
*Fishery Officer.*

FISHERY OFFICE,  
CASTLEBAY, 20th January 1921.

#### *Loch Broom District.*

This district, being primarily dependent on the erratic loch herring fishings, has its periods of alternate depression and prosperity in a more marked degree than districts which rely on wider stretches of fishing grounds. During the past year there were practically no herring shoals found in any of the district lochs, but the results of the less important cod-net fishing were a little better than in the previous unsuccessful year. Consequent on the herring scarcity the small-line and lobster fishings were more energetically prosecuted, and while line fishing showed an increase in catch, the number of lobsters captured showed an increase of over 10,000 over the previous record.

The means of capture returns show an increase of 45 boats and a decrease of 330 tons as compared with those of 1914. The increased number of boats is slightly misleading, because the majority of the small boats added to the register were most probably in use during 1914, although not registered because not fishing for sale. But the decrease in tonnage shows unmistakably the decline of the district fisheries. Better class craft have mostly been sold to more prosperous districts, until at the present time there are only 3 first-class, and 73 second-class boats compared with 17 and 94 respectively in 1914.

During the year 1920 3 second-class motor boats were added to the list, and 1, wrecked, was struck off.

The quantity and value of fish landed, excluding shell fish, was 16,895 cwts. and £9707, compared with 33,755 cwts. and £18,405 in 1919. Shell fish, principally lobsters, realised £5436 as compared with £5239 in the previous year.

The catch of herrings, taken chiefly during January in Lochs Glendhu and Cairnbawn, amounted to 7273 cwts. valued at £2614, or 31 per cent. and 29 per cent. respectively of the 1919 landings. Most of the winter catch was sold to carrying steamers, and the bulk of the remainder was freshed or cured for home markets. Only 3 curing firms operated in a small way when herrings were cheapest, and fishermen and others cured for domestic use.

Eighty district boats were employed at herring fishing. Only the Badachro motor-craft operated, with small success, in the Lewis and Skye waters. The highest gross earnings were £240, and the average earnings are estimated at £75.

The spring cod-net fishing, prosecuted chiefly from Badachro, was, as



stated above, slightly better than in the previous year, though the total value was less by £1236. Generally unsettled weather hampered operations, and markets at the time of the fishing were in such a condition that prices of fish were very low. Cod ranged from 6d. to 1s. 6d., and saithe from 6d. to 8d. each. The season was an unprofitable one for all concerned.

The landings of cod and saithe taken by net amounted to 4992 cwts. which realised £2668, compared with 2759 cwts. and £3804 in 1919. Thirty-nine boats, including 18 motor boats, operated, and earnings ranged from £40 to £220. A few motor craft carried their catches to Kyle and Mallaig, but the higher prices realised hardly compensated for the increased expenses.

No great-line fishing of any consequence was carried on.

During the months of June and July fish—mainly haddocks—were fairly plentiful in most of the lochs, and good small-line catches were secured, but towards the fall of the year fish became very scarce. A few consignments were made to southern markets but did not prove profitable, and the bulk of the landings was retailed locally. For the year 4567 cwts. valued at £4369 were landed, compared with 4262 cwts. and £5598 in 1919.

A most gratifying improvement took place in the lobster fishery. More craft are prosecuting this class of fishing, which proved the most important of the year. During the record year of 1919 52,433 lobsters valued at £5130 were caught, while during the year under review the catch numbered 62,827, of the value of £5393. The average earnings of the 98 boats which operated were £56, and the highest £160. In view of the seasonal nature of this fishery, and of the fact that it is carried on chiefly by the older class of fishermen, the increased landings are highly satisfactory.

A disastrous gale on 14-15th November caused great havoc in the district. Fourteen fishing boats, including a second-class motor boat, were totally wrecked while at their moorings or on the beach, and 20 others sustained damage.

No boats were built, and no herring barrels or basket measures were manufactured in the district.

Two district fishermen were unfortunately drowned owing to the foundering of their craft while fishing for lobsters near Isle Tanera.

DOUGLAS CRUDEN,  
*Fishery Officer.*

FISHERY OFFICE,  
ULLAPOOL, 17th January 1921.

#### *Loch Carron and Skye.*

In reviewing the fishing operations of this district for the year, one is immediately arrested by the considerable decrease in the quantity and value of fish landed. Herrings form the bulk of the catch, and the year's figures compare very unfavourably with those of 1919. Saithe and cod fishing also show a falling off, and only in mackerel is an increase of any note to be recorded.

Means of capture show an addition of 7 boats to the fleet since 1914, but a decrease of 80 in tonnage, or a decrease of 7 boats from 1919, and an increase of 39 tons. Three motor boats and 4 sailers were added to the fleet during the year, but the registry of 8 motor boats and several small sailers was cancelled, leaving the catching power slightly reduced.

The herring fishing goes on practically the whole year round, but the fishing season proper is from January to March, and in November and December. By the close of the winter fishing 11,370 crans, value £34,987, had been landed, compared with 23,110 crans and £96,301 for the corresponding period in 1919. At the end of the year the figures were 22,972 crans, value £58,215, compared with 35,530 crans and £130,801. The falling off took place principally at Kyle, which is the chief herring fishing port of the district, but the landings were also less at Snizort, Waternish and Dunvegan.

No doubt the smaller catch of herrings, and to a certain extent also of saithe and cod-fish, can be accounted for by the reduced fleet which came from the East Coast. A number of these crews made a start late in November. Fair results were obtained so far as quantity was concerned, but prices were so low that many of them deemed it advisable to lay their boats up, and about fifteen steam drifters were laid up at Plockton, and several at other places. Local fishermen also had their vessels lying idle at various times, because the high cost of gear and the working expenses left an insufficiently remunerative margin. High railway freights were also proving detrimental to successful fishing, for, as one fisherman tersely put it, "These increases all come out of the hold"; meaning that when any extra expenses were put on the working or marketing of the fish, so much less was the fish worth at the landing port.

The fleet operating from Kyle has a wide choice of fishing grounds, and operations were carried on from Whiten Head and along the West Coast to the Skye Lochs, as well as on the Stornoway grounds. Snizort and Dunvegan grounds were not so productive as in the previous year, and the falling off in the catch at these creeks was considerable.

Advantage was not taken of the Government Guarantee Scheme, as the curers have a good connection in the home markets.

A shortage of gear is likely to be experienced in the near future. Owing to the high prevailing prices, fishermen have been unable to replenish their stocks, and have been working with the old fishing gear. Unless there is a reduction in the cost so that fishermen will be enabled to buy new gear, the fishing industry is likely to suffer.

No boats were built during the year, as fishermen were not inclined to invest capital while the industry was so unsettled.

Mackerel fishing shows an increase of 4281 cwts. and £2523 as compared with the preceding year. Quantities of mackerel were landed at Kyle by vessels prosecuting the herring fishing, while a few boats fishing for mackerel from Portree had good results in October.

In January a motor boat was wrecked at Staffin, and during a severe gale on the 15th November 2 motor boats were wrecked, 1 at Torridon and the other at Loch Carron. The owners recovered the engines of the latter vessels. A small sail boat was also lost, and the total loss on vessels damaged amounted to £585. The damage to fishing gear was not so extensive as in 1919.

All who are interested in the industry are anxiously considering ways and means whereby it may be carried on during the present year. The herrings landed at Kyle are sent to the home markets, but if the industry is not on a sound basis in other places, it is expected that this district will suffer along with the Scottish industry in general.

JAMES W. DAVIDSON,  
*Fishery Officer.*

FISHERY OFFICE,  
KYLE, 17th January 1921.



*Fort-William District.*

Although the fisheries of Fort-William district during the year 1920 were attended with fairly good results, the aggregate landings show decreases as compared with those of the preceding year of 98,882 cwts. in quantity and of £222,120 in value, apart from shell-fish, which show a decrease in value of £968. It may be remarked that owing to war conditions the results of the fisheries of Fort-William district during the years 1917 to 1919 were abnormal.

In the means of capture returns there is a reduction of 20 boats. One first class motor boat, 3 second class, and 2 sail boats were added to the registry, while 2 of the existing sail boats had motors installed. It is regrettable that the district boats are showing a gradual diminution, although the bulk of them are of little value as regards catching power, and the bulk of the fish is landed by East Coast boats.

The winter herring fishing commenced during the first week of January at Mallaig and Oban, and was carried on with fair success despite adverse weather conditions. Motor boats suffered to some extent on account of stormy weather, but steam-drifters worked with remarkable regularity. The Mallaig fleet worked chiefly on Coll Bank, off Ushinish, and on the Stornoway fishing grounds, while the Oban fleet operated on Coll Bank and made regular trips to the Irish Coast. The total fleet engaged comprised 70 steam-drifters and 30 motor boats. The quality of the herrings landed was good. The Irish herrings, however, although large and of superior appearance, did not carry well to the English markets, and in many cases were condemned, with the result that fish merchants suffered severe losses.

Unfortunately about the end of February the fishing collapsed. Heavy supplies of Norwegian herrings arrived at Hull, with the result that a slump in prices occurred, and on account of the low prices ruling and the heavy cost of fuel and gear, the bulk of the boats ceased fishing. The suspension of fishing operations by the Scottish fleet has to be deplored, as it left practically a free market for the Norwegian supplies. Prices ranged from £4, 18s. down to as low as 10s. and 7s. 6d. per cran, averaging for the season £3, 1s. 4d. per cran, against £4, 4s. 9d. last year. The season closed with a total of 41,008 crans valued at £125,708, or 13,312 crans and £104,733 less than in the previous year. Mallaig accounted for 27,186 crans of the catch valued at £84,946, and Oban for 13,803 crans valued at £40,718.

The bulk of the white fish supplies was landed during the months from January to May inclusive. The fleet consisted of a few steam and motor liners from Fraserburgh and Banff districts. The boats landing at Oban worked chiefly from Barra Head to the Mull of Kintyre, and the boats landing at Mallaig worked from Barra Head to Skye and off Stoer Head. Good shots in which eels and roker predominated, but including also cod, ling and halibut, were obtained. Earnings ranged from £500 to £1000. Results for the year show a total of 34,707 cwts., valued at £42,199, being less than those for the previous year by 11,188 cwts. and £48,136. This decrease may be accounted for by the smaller number of boats at work during 1920.

The summer herring fishing commenced about the middle of April. The fleet reached its maximum strength about the middle of May, when 141 boats were engaged. The Mallaig fleet operated chiefly off Barra Head, Ushinish Point, and on Coll Bank, while the Oban fleet operated chiefly off Barra Head, Skerryvore, Loch Swilly, and on Coll Bank. Most of the motor boats made Mallaig their headquarters, while the speediest steam drifters were based on Oban. The fishing was rather

partial, and while a few craft more than cleared their working expenses, it is feared many failed to do so. The quality up to the end of June was rather poor. Prices ranged from £8, 8s. to as low as 4s. per cran, averaging for the season £2, 16s. 9d. per cran against £3, 7s. 9d. last year. On the 11th June, when the fishing prospects appeared brightest for the season, the East Coast boats ceased fishing, and the bulk of them returned to their home ports owing to the unfavourable decision by the Government regarding a Guarantee Scheme. On the resumption of fishing a fortnight afterwards, a few East Coast boats again returned to the West Coast and continued operations until the 1st September. The fishing ground during this period was within the area between Tiree, Barra Head, Hyskeir and Coll. A considerable shoal of very fine matje herrings was located on these grounds, and the bulk of the boats made a very successful fishing. Prices generally ranged from 40s. to £6, 10s. per cran. During the month of August a fair proportion of the catch was cured gutted and sent to Glasgow for export to the American markets, but the bulk of the catch was sent to the English markets in a fresh state. The summer season ended with a total of 29,855 crans, valued at £84,691, or 8311 crans and £44,603 less than in 1919. Mallaig accounted for 13,255 crans valued at £33,886, and Oban for 16,521 crans valued at £50,644.

Herring fishing was again resumed at Mallaig in November and continued until the close of the year. The fleet at first was small, but was speedily augmented by boats returning from the English fishing. Herrings were found in most of the Skye Lochs and in Loch Inchar, and some heavy shots were landed. Prices were rather low during November for profitable fishing, as the East Anglian fishing was not yet finished, while railway transport was defective. Herrings sold as low as 5s. per cran, and in several cases crews discharged their catches into the sea rather than deliver herrings at that figure. A number of crews laid up their boats and returned home to the East Coast until prospects improved. Prices ranged chiefly from 5s. to 81s. per cran. The results of lobster fishing showed decreases of 12,428 in number and £1136 in value.

Fortunately there was no loss of life in connection with the fisheries.

The Government Herring Guarantee was practically inoperative as regards this district during June and July, because the trade at that time was entirely a freshing one, but at the close of July several East Coast curers commenced curing chiefly for the American markets. The scheme undoubtedly steadied prices to the fishermen.

The present position of the fishing industry in this district is satisfactory. As the industry is almost entirely a freshing one the future prospects are quite favourable, provided the railway authorities make every endeavour to run special fish trains to the English markets and otherwise facilitate the rapid distribution of herrings, in order that as much of the catch as possible may be disposed of throughout the country in a fresh state. The few herrings cured in pickle are usually intended for the American markets, where there is doubtless room for development.

New kippering premises are in course of construction at Oban capable of dealing with about 25 crans of herrings per day. Several curers recently endeavoured to secure ground for pickling plots, but were not successful. A syndicate recently endeavoured to develop Tobermory as a fishing centre, but as yet no progress has been made.

JAMES YOUNG,  
*Fishery Officer.*

FISHERY OFFICE,  
OBAN, 18th January 1921.



*Campbeltown District.*

The total quantity and value of net and line fish landed in this district during the year 1920 was 81,469 cwts. and £53,331, as compared with 70,643 cwts. and £53,225 for the previous year, showing a marked increase in the catch, but only a slight increase in the total value. The value of shell fish landed for the year shows a decrease of £91, so that the total value of all fish landed shows an increase of only £15, despite the marked increase in the quantities landed. This decrease in average values is largely accounted for by the difference in the prices paid for herrings during the spring months of 1920 and in the corresponding period of the previous year, when the demand for herrings was keen and war prices still prevailed.

The means of capture returns show a decrease of 13 boats, but an increase of 5 tons when compared with last year's figures. The additions to the register during the year were 6 second class motor boats (1 a new boat, 1 from Tarbert district, 1 from Ireland, and the others boats of a smaller type bought from other districts and fitted out for fishing), and 2 sail boats, 1 second class and 1 third class. A motor boat belonging to Campbeltown was wrecked, another sold out of the district, and a number of second and third class sailers struck off the register as being unseaworthy.

Owing to the high prices prevailing, very little new gear was acquired by the fishermen during the year. The majority of the crews were inclined to wait for a season in the hope of a decrease in prices.

During the month of January the herring fleet was successful in locating shoals of fine herrings in Machrie Bay, but bad weather seriously interrupted operations. This was all the more regrettable, because at that period the demand for supplies for the fresh market was keen and good prices were realised. In February, Kildalloig Bay was teeming with herrings, but as the fish were of poor spawny quality there was no demand after the first week's fishing, and prices quickly fell to as low as 2s. per basket.

Towards the end of the month the majority of the crews went to the Ayrshire coast, but as the herrings were of a similar quality and the landings heavy, poor prices were the rule, and the bulk of the fleet returned home.

Herring fishing was engaged in occasionally by a number of crews from February to the middle of June, but during this period the demand was poor, and the quality of the herrings landed not very satisfactory.

A number of the local crews proceeded to Canna at this time and had a very successful season at the herring fishing there, landing their catches at Mallaig. From July to the beginning of October the herring fishing was prosecuted steadily in Kilbrannan Sound with fair results. The quality of the fish landed at this period was as a rule poor, but the low supplies from the East Coast ports kept the demand from the fresh market good, and the local fishermen were able to earn a fair wage.

From October to the end of the year the majority of the local fishermen were at work in Loch Fyne participating in a successful fishing, and nearly all the crews so engaged earned good wages.

Herring curing was confined to Campbeltown, and here 780 barrels were cured, most of which were sent to Leith for distribution. All the herrings kippered were disposed of locally.

As usual the bulk of the catch was sold to the steamers on the grounds, and carried by them to the rail-heads for Glasgow market. Nine steamers were engaged in this work during the year, carrying a total of 28,008 boxes of herrings, value £24,003.

From June to October catches of mackerel were secured in

Kilbrannan Sound. The best results were obtained in August. The quality was not so good as last year, and the fish were smaller than usual in this district. An average price of 28s. 4d. per cran was realised as compared with 33s. 11d. per cran last year.

A number of motor line boats from Aberdeen and Montrose districts were engaged in great-line fishing from Campbeltown during the spring months, and landed some fine catches of cod, skate and eels. This fishing was interrupted by the bad weather experienced during these months, and the crews were handicapped by the shortage of herring bait. When bait was available the demand for the white fish taken was, on several occasions, poor owing to heavy landings at the trawling ports on the East Coast. The landings at Granton especially had an adverse effect on the prices ruling on the Glasgow market, to which the bulk of the great-line fish was sent. The landings of the stranger crews caused a number of the local fishermen to pay more attention to great-line fishing than they had done for a number of years, and during the season, while herring fishing was slack, about 6 pairs of the local skiffs carried great-lines and landed fair catches, chiefly of cod, skate and eels; but on the whole, despite the good landings, the great-line fishing was not a success from the fisherman's point of view, and some of the stranger crews did not earn enough to pay expenses, especially those who arrived late in the season.

Small-line fishing was engaged in with more success than for a number of years at Campbeltown and the creeks in Lochindaal, Islay. At Campbeltown the catch consisted chiefly of whittings and haddocks, which met with a ready sale locally at prices bordering on the old control figures.

The returns from Gigha show a big increase in the quantity of cod landed. About three-fifths of the total landings were cured dried by the crews, and carried to ports on the Ayrshire coast and the Clyde for sale. The prices realised ranged from £3 to £4 per cwt., averaging about £3, 10s.

The returns of the shell fisheries show an increase in the number of lobsters landed, but a decrease in the values. The average value of the lobsters landed was 1s. 8d. as against 1s. 11½d. for the previous year.

There was a marked decline in the landings of lobsters at Port Ellen, and a slight decrease at Jura and Colonsay; but increased landings on the west Kintyre coast at Gigha and at the other Islay creeks more than balanced the shortage at the creeks first mentioned.

No new boats were built in this district during the past year, and carpenter work was confined to minor repairs and slight alterations in the fleet.

Owing to the poor demand for nets from the local fleets, and the absolute cessation of demand from the East Coast, the local net factory, after having worked for a number of weeks on short time, has had to close down for an indefinite period.

There was no loss of boats apart from the wreck of the motor boat already referred to, and the damage to boats was not abnormal. The loss of creels was the chief item of expense in the outlying creeks, and damage to gear in the Firth of Clyde was confined to the destruction of some seine nets in dealing with the heavy shoals in Loch Fyne.

No life was lost in connection with the fisheries of the district during the year.

GEO. M'GEE,  
*Fishery Officer.*

FISHERY OFFICE,  
CAMPBELTOWN, 20th January 1921.



*Inveraray District.*

The results of the fishing operations carried on in this district last year were exceptionally satisfactory, and show, when compared with those of the previous year, a very marked increase in the quantity and value of fish landed. The total landings in this district for the year amounted to 96,826 cwts., valued at £37,979, while the totals for herrings alone were 93,982 cwts. and £36,281 respectively. Compared with 1919 the figures for all fish landed show increases of 50,700 cwts. and £19,059, which were therefore greater than the totals for the preceding year. This remarkable improvement was due entirely to the very successful herring fishing. The totals for the year have not been reached since 1899, when the landings of herrings for this district were 109,810 cwts. valued at £40,876.

The means of capture returns show a decrease of 13 boats since the preceding year. Some of those were old boats which were useless for the fishing, while others were only small pleasure boats that had been registered during the war, so as to be at liberty to engage in fishing for profit. Compared with 1914 the returns show decreases of 60 boats and 250 tons.

In the month of January practically all the fleet belonging to this district was operating in Rothesay district, where large shoals of herrings were met with, and a good market was found for them at prices ranging from 14s. to 60s. per cran. During February, however, the boats were not so fortunate, as very severe weather was experienced, and although there was a good appearance of herrings in the Kyles of Bute, the fleet only ventured to sea on a few occasions. On the Ayrshire coast during the month of March the Loch Fyne fleet was again very unsuccessful, for although there were plenty of herrings on the grounds the quality was so poor and the price so low that the boats from this district gave up fishing and came home. Towards the middle of April the herring fishing was resumed in Loch Fyne and fairly good catches were secured in the waters between Tarbert and Skipness, but the herrings were of poor quality, and the prices realised were only from 12s. to 40s. per cran. From then onwards till the end of June the fishing was very disappointing, but during July large shoals of herrings were again located on the grounds between Tarbert and Skipness, and good catches were landed, for which prices ranged from 25s. to 72s. per cran. The herrings remained in the loch right on till the close of the year, and during the last two months nearly all the Campbeltown fleet and some boats from Rothesay and Ballantrae districts operated in Loch Fyne. Very heavy catches were netted, and in some cases so large were the quantities "circled" that the herrings burst through the nets, while the catch for the month of December reached the total of 13,042 crans valued at £13,503.

Only 806 barrels of herrings were cured during the year, three-fourths at Ardrishaig and the remainder at Tarbert. There was a good demand for them in the surrounding districts at 48s. to 50s. per barrel.

Small shoals of mackerel found their way into the loch during the summer months, and shots of 30 to 90 baskets were netted, nearly all of which were sold to the buying steamers at 8s. to 14s. per basket. The landings show decreases of 824 cwts. and £619 as compared with the previous year.

The line-fishing is of very little importance in this district, and the total quantity landed amounted to 246 cwts. valued at £407, being slightly greater than in 1919.

The cod-net fishing also was prosecuted with very little success, and

the results show decreases of 555 cwts. and £498 when compared with the figures of the previous year.

An increase has to be noted in the value of shell fish landed, which is accounted for by the large quantity of whelks that were gathered by the fishermen of Tarbert and Ardrishaig during the months of March, April and May, when there was little doing at the herring fishing.

The boat building trade was slack, and only one skiff was built in this district during the year. This boat was built to the order of a local crew, and is the largest fishing boat in Loch Fyne.

No lives were lost in connection with the fisheries of this district.

The following statement of the quantity and value of herrings landed in this district during the years 1899 to 1920 shows clearly the revival which took place during the Loch Fyne fishing during the past year. :—

	Cwts.	£
1899 . . .	109,810	40,876
1900 . . .	86,589	36,280
1901 . . .	102,608	33,410
1902 . . .	92,181	30,577
1903 . . .	74,193	30,087
1904 . . .	27,414	15,768
1905 . . .	16,352	7,525
1906 . . .	18,403	5,907
1907 . . .	13,698	3,818
1908 . . .	14,245	4,589
1909 . . .	12,894	4,076
1910 . . .	37,058	9,327
1911 . . .	16,352	3,323
1912 . . .	7,672	2,182
1913 . . .	10,696	5,048
1914 . . .	3,216	1,937
1915 . . .	26,062	8,440
1916 . . .	2,576	1,916
1917 . . .	899	641
1918 . . .	5,763	6,623
1919 . . .	41,973	16,193
1920 . . .	93,982	36,281

ANDREW ANDERSON,  
*Fishery Officer.*

FISHERY OFFICE,  
TARBERT, 15th January 1921.

#### *Rothesay District.*

The aggregate results of the fisheries of Rothesay district for the year 1920 were extremely disappointing. The landings exclusive of shell-fish amounted to 56,287 cwts., value £26,129, and show decreases of 61,927 cwts. and £49,919 as compared with those for 1919. This remarkable decline is largely attributable to the failure of the herring fishing in the Kyles of Bute.

A downward tendency in the means of capture was again evident. There are now in the district a total of 87 boats, being 11 sail and 3 motor vessels less than for the previous year. No new vessels have been added to the fleet.

The landings in the district were heaviest in the month of January,



when 7258 crans were recorded. The fishing grounds were then located in the Kyles of Bute. Consequent on the appearance of shoals of herrings in Loch Fyne at the latter end of the year, the local fleet proceeded to that area to prosecute the fishing. The Kyles of Bute grounds were thus neglected, except by a few sail boats, and the results justified the fishermen's action. The herrings in Loch Fyne were plentiful, of good quality, and met a ready market. Had the fishing been carried on at the same time in the Kyles of Bute the herrings from these waters, which are usually of very inferior quality, would have proved unmarketable.

The total quantity and value of herrings landed for the year were 14,456 crans and £19,417, as compared with 31,297 crans and £64,981 in the previous year. The average price per cran works out at 26s. 11d. as against 41s. 6d. in 1919. With the exception of the herrings landed during the closing months of the year, the quality of the catches was far from satisfactory.

The mackerel fishing was practically a failure, and the totals for the year show decreases of 981 cwts. and £833 from the figures of 1919, which was reckoned a poor year. As in the case of herrings, Glasgow and the Midlands of England were the chief markets to which mackerel were consigned. The most productive grounds were those in the vicinity of Kilchattan, and in Lochs Long and Gail.

Apart from herrings and mackerel, cod and codling, saith, and conger eels were the principal kinds of fish taken. The total landings of white fish amounted to 4335 cwts. valued at £6152, showing decreases of 2003 cwts. and £3522 from the returns for the previous year. As the decrease in value for 1919 as compared with 1918 was £4801, this further decrease of £3522 shows a remarkable decline in this branch of the fisheries. Every year makes it more evident that the local fishermen are devoting almost their whole time to the prosecution of the herring fishing, and neglecting the other branches of the industry. No doubt the fishermen have found it more profitable to do so.

Each creek contributed its quota to the landings, but the principal places were Rothesay, Kyles-of-Bute, Dunoon, Lochranza and Lamlash. The greater part of the catch was consigned to the Glasgow market, and the remainder was sold locally.

Small-line fishing received little attention, and that only from the smaller sailing craft of the district. The landings were small, but the prices obtained were on the average quite remunerative.

A few of the motor skiffs belonging to Rothesay and the Kyles-of-Bute engaged in great-line fishing during the months of February, March and April. The fishing grounds were to the South-East of Bute, in Loch Long, and in the Gareloch. The results obtained were fairly satisfactory as regards both quantity and value. The fleet was not as large as in the previous year.

The average prices per cwt. for the various kinds of fish landed for 1920 and 1919 were as follows:—

	1920.	1919.
	s. d.	s. d.
Cod and Codling . . . .	31 11	40 6
Saith . . . . .	16 2	18 2
Conger Eels . . . . .	20 7	27 1
Flounders and Plaice . . .	77 5	80 4

The shell-fish fisheries of the district are unimportant, and fully 60 per cent. of the value derived therefrom was referable to mussels and

unclassified kinds. The total value of all kinds of shell-fish taken was £765, or £84 more than in the previous year.

No lives were lost in connection with the district fisheries, and the loss of and damage to fishing gear was very slight.

Two fishing boats were built within the limits of the district, against 4 in 1919.

JOHN LAWSON,  
*Fishery Officer.*

FISHERY OFFICE,  
GLASGOW, 7th February 1921.

*Greenock District.*

Both as regards quantity and value, the returns of fish, excluding shell-fish, landed in this district during 1920 show a marked decrease from the figures for the preceding year. With the exception of the herring fishing very little was done, and it is evident that the majority of the local fishermen concentrate their whole time and attention on the herring fishing, leaving the line, cod-net and flounder net fishings to the smaller and less efficient sailing craft. It is not then surprising that each succeeding year records a substantial decrease on the landings of white fish. If this downward tendency continues, the fishing ports in this district will soon be non-existent.

A feature which largely explains the decrease of white fish in 1920 is that, whereas considerable quantities of fish were landed at Glasgow direct from steam trawlers and steam liners in 1919, only one steam trawler discharged a very small shot of fish at the port during 1920.

The means of capture returns also show a downward tendency. Four motor boats and 1 sailing boat were added to the fleet, but on the other hand 4 motor and 6 sailing vessels were struck off the register. The district is now credited with 109 fishing vessels.

The herring fishing returns show decreases of 3785 cwts. in quantity and £560 in value from the figures for 1919. The decreases are largely attributable to the comparative failure of the fishing on the grounds within easy reach of the district ports. The herring fleet was, practically throughout the year, engaged in prosecuting the fishing in Loch Fyne and the Kilbrennan Sound. For the most part the catch was sent from the ports of landing to Glasgow and the Midland markets. The average price to the fishermen worked out at 45s. 5d. per cran, as compared with 35s. 4d. in the preceding year and 58s. in 1918.

With regard to the landings of mackerel, increases of 228 cwts. in quantity and £50 in value are recorded. As in the case of herrings, the mackerel were all railed in a fresh state to Glasgow and the southern markets. The average price for the year was 10s. 6d. per cwt., as against 12s. 4d. in 1919.

The net and line fishing for white fish was of very little importance. A good proportion of the landings was retailed in the localities where the fish were landed. The total landings for the year amounted to 1051 cwts. of the value of £2074, being 1955 cwts. and £7994 less than in 1919. Cod and codling averaged 45s. 3d. per cwt., saith 21s. 11d., eels 27s. 1d., and flounders and plaice 54s. 9d.; as against 61s. 8d., 11s. 6d., 40s. and 57s. 6d. respectively in 1919.

The returns of shell-fish show very little change from those of the preceding year; a slight decrease of £15 in value has however to be recorded. Mussels accounted for 64 per cent. of the total value. The



number of lobsters taken was almost double that of the previous year, and there was a corresponding increase in the value.

The quantity of herrings cured gutted exceeded that of the preceding year, but the quality of the herrings taken in the Clyde area did not permit of the regular carrying on of this branch of the industry. There was also an increase in the quantity of herrings kippered by local curers.

With regard to the curing of other kinds of fish very little was done. A few tons of cod, ling and saith imported in a well-salted state were cured dried in the district.

The exports of cured herrings, cod-fish, etc. slightly exceeded those of last year, and were considerably greater than those of the previous few years. America, Canada and Ireland were the countries to which the bulk of the cured herrings were exported, whilst Spain, Australia and the West Indies received most of the cured cod-fish.

Only 1 motor fishing vessel was constructed within the district during 1920.

Apart from the usual "wear and tear," no loss of or damage to fishing gear or vessels was sustained by local crews.

JOHN LAWSON,  
*Fishery Officer.*

FISHERY OFFICE,  
GLASGOW, 10th February 1921.

*Ballantrae District.*

With the return to more normal conditions, the extremely high prices for fish resulting from the war gradually settled during the year 1920 to a more reasonable level, but the capital cost and expenses of upkeep of boats and gear did not recede at all in proportion, and consequently the prosperous times recently enjoyed by fishermen have well-nigh vanished. Nevertheless, all branches of the fisheries in this district were actively pursued with varying success throughout the year. Perhaps the outstanding event of the year's operations was the failure of a promising effort by a private Company to develop Stranraer as a trawling port, as noticed in last year's report. The Company acquired two large steam trawlers, which fished from the port with indifferent success from January to May, when it was decided to transfer the vessels to Fleetwood, evidently owing to disappointing financial results and other difficulties.

An increase of 9 motor boats during the year brings the number on the register to 106. A few crews had their engines replaced by new and more powerful installations.

Fishermen on the Ayrshire coast of this district devote most of their time to herring fishing, and, in fact, some pursue no other fishing, but follow the shoals to all parts of the Clyde area. The district has, however, a special season, when fishermen from the other Clyde districts participate in fishing in local waters. This season opens at Stranraer early in the year, when herrings are expected to congregate in Loch Ryan. The herrings taken are in demand on the English markets, perhaps in preference to all others at that season of the year. During the year under review a fair fleet, although not so large as that of some previous seasons, gathered at Stranraer early in January, but, owing to the very unpropitious weather which prevailed, results were poor indeed, and the season's total did not amount to what would have been a moderate week's catch for the fleet operating.

During the progress of this fishing, two steam drifters landed some 240 crans at Stranraer from the Irish waters, which made 55s. per cran.

Year by year the herring shoals gather on Ballantrae Bank for the brief spawning season, but, owing to stormy weather, this season also proved unproductive in 1920. Hardly any favourable night was experienced, and the only herrings taken from the Bank were ripe and running with spawn, indicating the approaching end of the season. Only a very few crews made reasonable earnings.

After an interval of a month or six weeks the district fleet made a fresh start at herring fishing, which was continued with more or less regularity in different areas till the end of the year. During the summer months, the results of fishing with the seine net were very irregular, while the Girvan boats, which generally adopt the drift-nets during this period, landed a light regular fishing of herrings with a fair proportion of mackerel. During the fall of the year, when the seine net is generally adopted, catches were irregular, and landings at Ayr and Girvan very erratic, as the fishing was mostly centred too far from home ports, and weather conditions were against long passages.

While, nevertheless, a number of the district boats experienced a prosperous time, some crews unfortunately were very unsuccessful. Although the returns of herrings landed are no true index of the earnings of fishermen from this source, the average earnings are known to be much below those of the previous year, and the general condition of the fishing community is much less prosperous than a year ago.

As previously indicated great line fishing does not receive much attention from local fishermen, being restricted to a very small portion of the fleet, and almost confined to Stranraer and Girvan. At the former place the fishing was engaged in also by 4 large motor boats from the East Coast, and at Girvan by 2 of a smaller size. At neither place was the yield more than would provide fair earnings to those engaged. Gross earnings at Stranraer averaged approximately £600, inclusive of receipts from herring trammel nets and cod nets, all of which were employed during the season. Earnings at Girvan averaged £375, all from line fishing.

Cod net fishing was somewhat developed at Stranraer and Girvan, and for a little time was very successfully prosecuted, yielding in the aggregate better results than in the previous year. Small line fishing was prosecuted from Dunure for a very short period, and at Girvan this method of fishing was almost confined to one crew, but at Maidens, which is the local seat of this fishing, some 3 to 7 boats operated during the whole year with very satisfactory results. Skate fishing in Luce Bay was not so productive as during 1919.

The shell fisheries of the district were well maintained and in some cases improved.

As already indicated values were on a lower level. The average price for herrings works out at 11s. per cwt. against 22s. 6d. in 1919, while the average for all kinds excluding shell fish is 19s. 5d. against 31s. 5d. for the previous year. Herrings were generally of poor quality, especially as regards size, which to some extent explains the decided fall in value.

Kippering as a branch of the local herring industry continues to expand. During the year some 1249 crans, including about 200 crans from other districts, were dealt with against 432 crans in the preceding year. These were largely disposed of in the surrounding district.

Very little curing is done in this district and only some 95 barrels were put up in this manner, entirely for local sale.

Unfortunately the year's operations were marred by the loss of two



lives. Two Port Logan men, while engaged lobster fishing, were drowned off the coast through the capsizing of their boat. Assistance arrived too late.

As curing for export is almost unknown in this district the Government Guarantee Scheme practically did not operate. The prospects of the industry in this district, while perhaps not so bright as hitherto, give no cause for anxiety, as the fish landed by local fishermen are usually consumed fresh. The high prices of all kinds of fishing gear is certainly a handicap, but relief in this direction is confidently anticipated in the near future.

With the return to something like pre-war conditions the present state of Girvan harbour will doubtless adversely affect fishing operations from this creek. Owing to the silting up of the basin and channel, the local boats cannot get entry or egress until about half-tide. A movement is on foot with a view to the taking over of the harbour by the Town Council for the benefit of the general community, but no definite decision has been reached.

JOHN GLEN,  
*Fishery Officer.*

GIRVAN, 14th January 1921.

## APPENDIX III.

**SALMON FISHERIES.****MR. CALDERWOOD'S REPORT.**

FISHERY BOARD FOR SCOTLAND,  
EDINBURGH, *February 1921.*

I have the honour to submit my annual report, being for the year 1920, on the various points which appear to require special notice in connection with the salmon fisheries of Scotland.

On the general question of the productivity of the fisheries in question, the records of weight of salmon carried to market have been received since the year 1894. This enables us to show five quinquennial periods and to compare these with the two last years.

A glance at the accompanying chart of curves will show the steady and, in my view, alarming drop in the 27 years.

The fluctuations from year to year will be seen in the more detailed curves dealing with four sections of the coast, contained in the Board's section of the report (p. 58). The curve of averages, however, gives a more concise view of the general decline, and speaks for itself. The great rise in the price of salmon has made it possible for netsmen still to obtain satisfactory financial results, but the chart speaks eloquently as to the stock of fish. Looked at from the point of view of rental, 8 of the leading districts may be compared as under:—

	1915	1916	1917	1918	1919	1920
	£	£	£	£	£	£
Tweed . .	16,104	16,124	15,686	15,268	15,309	15,416
Tay . .	24,105	23,622	22,849	21,599	21,618	21,618
South Esk . .	3,438	3,361	3,356	3,418	3,443	3,813
Dee . .	18,953	18,641	17,673	17,405	17,117	17,491
Don . .	4,351	4,205	4,319	4,214	3,858	4,047
Spey . .	11,507	9,844	9,867	9,793	10,354	10,354
Kyle . .	4,545	4,425	4,353	4,370	4,452	4,452
Annan . .	2,272	2,262	2,262	2,124	2,123	2,125
	<u>85,275</u>	<u>82,484</u>	<u>80,365</u>	<u>78,191</u>	<u>78,274</u>	<u>79,316</u>

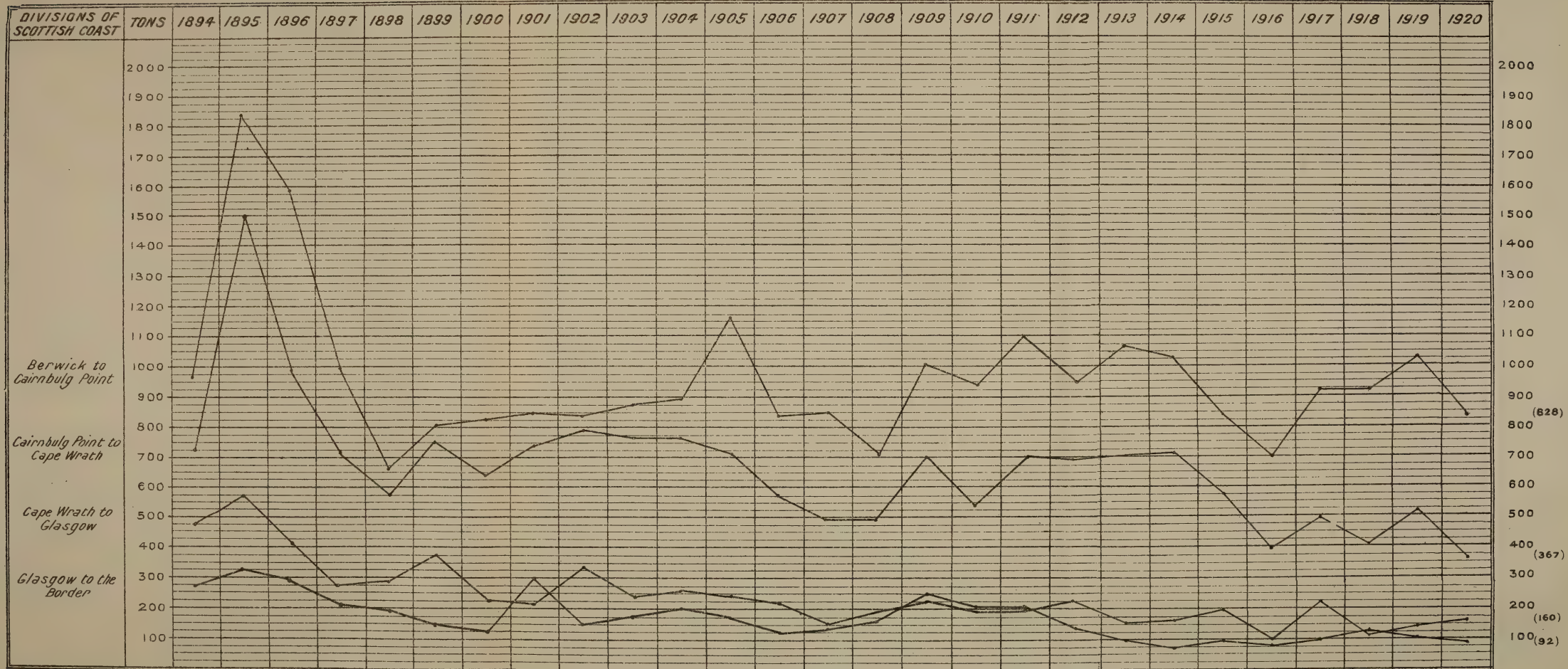
There is shown a recovery since 1918, but the last year still shows a decline of £5900, from conditions at the beginning of the war.

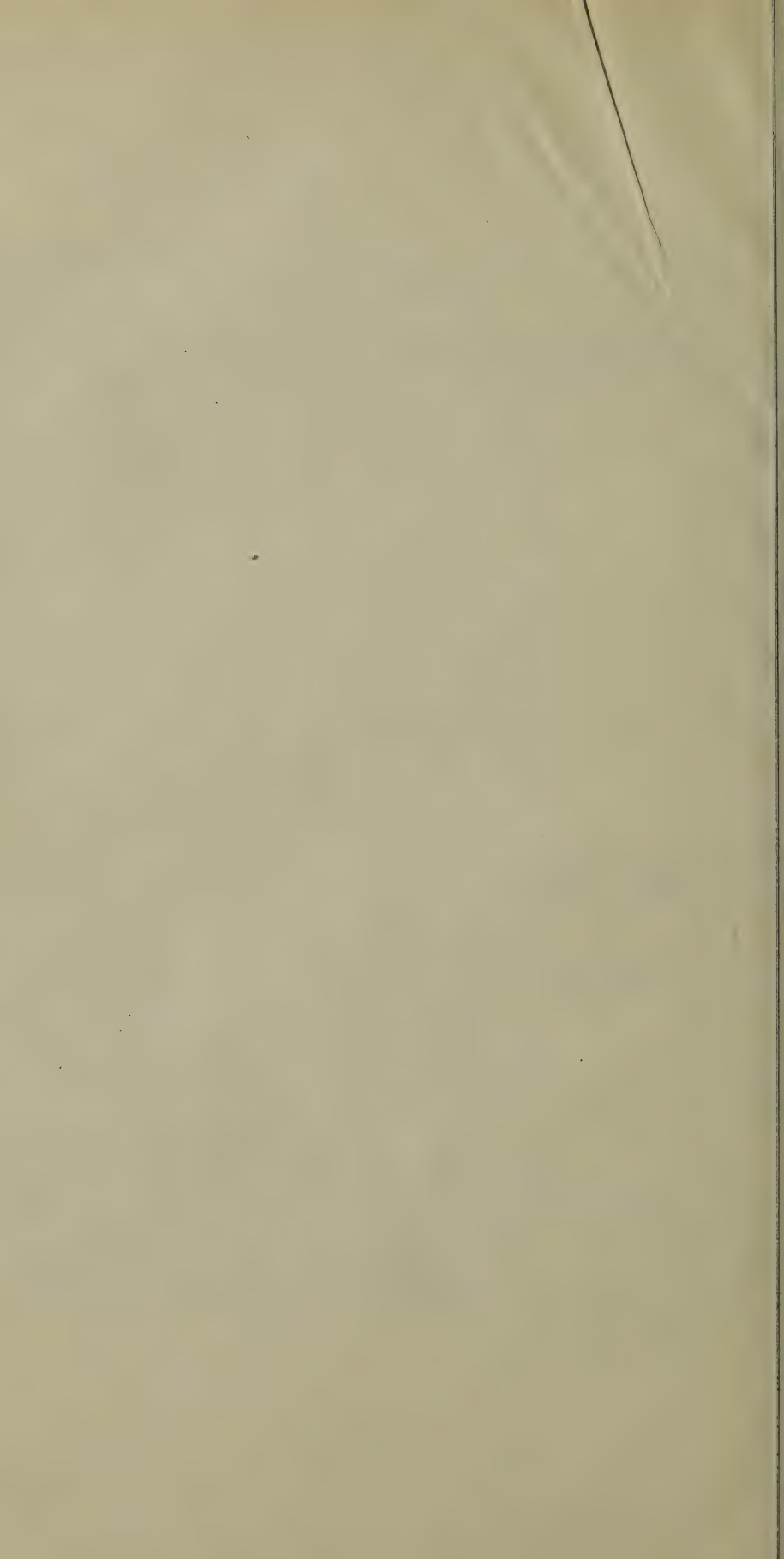
**PRACTICE OF NET AND COBLE FISHING.**

I referred in my last annual report to the case which had been decided before the Lord Justice-Clerk and three other judges of the



CURVES SHOWING APPROXIMATELY THE TONS OF SALMON CARRIED BY  
SCOTTISH RAILWAYS & STEAMSHIPS SINCE 1894







Court of Session respecting lawful netting within the limits of estuaries. The case has become known as *The Nith Fleeting Case*.

The decision establishes that in the proper conduct of net and coble fishing, the shot shall be rowed "during such time only as is required for the boat to row round the net."

The practice complained against was in fact a variation of the once recognised drift net fishing as practised in the Tay, a method of fishing which was put down because the House of Lords decreed that drift nets are fixed engines, and as such cannot be fished within the limits of estuaries. The Nith Case tested the point of whether a net, used with a coble, might be allowed to drift during the operation of rowing the shot. The issue is embodied in the quotation given, and in future any form of drifting or hanging, under the guise of net and coble fishing, becomes an unlawful practice.

In all probability the practice was more marked in the Nith, and the breach of the proper conduct of a moving net as the only legal engine within the limits of an estuary, more flagrant than in any other Scottish river. But in certain other districts, which need not for the present be named, this practice has long been common.

Near the mouth of a river, at suitable states of the tide, it is convenient for netsmen to allow a net to hang as described in order to intercept fish running in to fresh water. Similarly in a long even pool of a river it is convenient to let the net drift the whole way down instead of taking several short shots.

It is possible that in some districts the decision in the Nith Fleeting Case has not been noticed, but I have had occasion to observe that the practice of hanging the net and allowing the coble to drift or ride at the partly shot net, had not been abandoned in certain districts in 1920. On several occasions I have timed operations, and have found that quarter of an hour may be allowed to elapse in this way, and I have noticed that several boats may be operating in this unlawful way at the same time. The net may all be out, or only a part of the net may be out, the coble is allowed to drift or hang in the current, or where currents meet, so that a marked interval elapses before the shot is finished. When only a part of the net is run out, the shooting of the rest is prevented by the man in charge of the boat, in the manner which was taken exception to in the Nith Case. The net is stopped or "stented."

It is important that District Fishery Boards should take special notice of the manner in which net and coble fishing is practised in their respective districts, and that in all cases netsmen be required to row out the shot at once in the proper manner.

#### GRILSE.

I have on several occasions called special attention to the relative proportions of salmon and grilse. It unfortunately happens that with the absence of statistics we are unable to make a comprehensive estimate of how this important ratio is changing. There is no doubt at all that as compared with some early records, the modern records compare very poorly; that all the grilse captured in a good grilse year now-a-days could have been far exceeded by the catch of a single river in former times. The catch of salmon was also immensely greater, but the ratio between salmon and grilse is not now in favour of grilse as it used to be. There are certain localities where coast nets rely chiefly upon the grilse catch, and these fisheries—as, for instance, in Skye and Raasay—have very greatly declined. There are other districts in which grilse have

never, so far as is known, appeared in great numbers. These opposite conditions are sufficiently remarkable to warrant careful inquiry, and in the research work which we are now again conducting in the sea, special attention is being given to the migratory movements of the young adolescent fish.\*

In the Pentland Firth, where within the period of my own experience as many as 8 grilse used to be taken for every salmon, the proportion of grilse has greatly diminished. At the Halladale fishings only 2 grilse for every salmon are reported. At Crosskirk in 1920 there were fewer grilse than salmon, a condition which has only once previously occurred, so far as I am aware, viz. in 1914. Mr Smith, who has carried on the Crosskirk netting for many years, has kindly given me his figures since 1910, and the percentages of grilse are as follows:

1910 . . . . .	75.6	1916 . . . . .	52.7
1911 . . . . .	75.7	1917 . . . . .	57.6
1912 . . . . .	72.4	1918 . . . . .	58.3
1913 . . . . .	62.8	1919 . . . . .	68.
1914 . . . . .	46.5	1920 . . . . .	38.2
1915 . . . . .	69.8		

Only at Sandside, further west, does the condition approximate to half the former percentage. Mr Nicol M'Nicol, for Mr Pilkington, sends in the following return:—

In 1916 . . . . .	1 Salmon to 3 Grilse.
1917 . . . . .	1 " 4 "
1918 . . . . .	1 " $2\frac{1}{3}$ "
1919 . . . . .	1 " $2\frac{1}{4}$ "
1920 . . . . .	1 " 4 "

#### ABERDEEN HARBOUR COMMISSION FISHING.

I have been favoured with a return from the Aberdeen Harbour Commissioners showing their salmon catch since 1908, the date of the last statement. I give the quinquennial figures for the total number of years available, and separate salmon and grilse.

	Salmon.	Grilse.
1874—1878 . . . . .	6,132	6,234
1879—1883 . . . . .	4,872	9,072
1884—1888 . . . . .	5,877	11,718
1889—1893 . . . . .	7,514	9,346
1894—1898 . . . . .	6,160	8,137
1899—1903 . . . . .	4,377	6,157
1904—1908 . . . . .	4,141	4,696
1909—1913 . . . . .	5,812	4,113
1914—1918 . . . . .	4,782	2,238

The figures for the two last years are:—

	Salmon.	Grilse.
1919 . . . . .	5,808	5,927
1920 . . . . .	6,516	2,335

#### POLLUTIONS.

The menace presented by the insidious increase of pollutions has not attracted the attention it requires. District Fishery Boards find them-

\* *Vide* separate paper.



selves unable to combat the very serious difficulty in any very efficient way, although one or two are giving much attention to the matter.

Special reference has previously been made to this difficulty in the river Forth, where, owing to the great abstraction of water to Glasgow, pollutions are not now diluted as formerly. Mr Murray, who nets the conjoint stations of the estuary, has reported as follows:—"It is difficult for me to describe the destruction without running the risk of being accused of exaggeration. An ominous feature was the early date in summer when the deaths began, a number of trout and smolts being destroyed during a big stream tide in the end of May. With cooler weather and a little fresh water in the river, the fish held on without at least serious loss until the end of July, when, with a big tide and dry hot weather, the water again became incapable of supporting fish life. As at that time the river was well stocked, the mortality was great, practically every fish being destroyed. . . . It is difficult to even estimate the number of fish destroyed. One hundred and eighty-six were buried on one occasion by the bailiffs in the extent of a few hundred yards; many hundreds lay and rotted on the shores and sandbanks, while more were hauled out in a dying condition by people who frequented the river banks for that purpose. . . . At a very conservative estimate I should say at least 1000 fish were destroyed, and this takes into no consideration the large number of immature fish that suffered the same fate."

The condition in this district is now so serious as to be critical. If it continues, the probability is that all summer fish will be destroyed and the net fisheries ruined. It is, in fact, only the very high price of salmon in recent years which makes it still profitable to carry on the netting. The supply of food is greatly reduced.

One recalls with melancholy interest that Richard Franck in his *Northern Memoirs* 1821, writes, with regard to the salmon in the Forth, that "the price of a salmon formerly exceeded the value of sixpence sterling, which I suppose no Englishman will grudge, nor think it unreasonable to give at any time."

With regard to the cure of this most serious canker of pollution, I may recall that the valuable results of the Sewage Disposal Commission have not yet materialised in any legislative shape. I dealt in my last report with the groups into which the commissioners arranged the various classes of trade wastes, and with the question of the "standard of purity." I need not again touch upon these matters here. But no general report upon salmon fisheries can in future be without some reference to this most serious trouble. Many sources of pollution received great accretion during the period of the war, and during that period it was inevitable that pollutions should be allowed to proceed unabated, but in the subsequent period of reconstruction there is much avoidable harm which might be checked.

Apart from the view that waste products are a mark of unscientific manufacture, that many substances formerly regarded as useless have been turned, under modern chemical treatment, to useful account, there is the undoubted argument that one class of industry is being allowed to destroy another. Manufacturers producing the toxic waste products referred to are allowed, for their own convenience, to pour them into our salmon rivers to the detriment and destruction of the salmon fisheries. Those whose fortunes are bound up with the industry of salmon netting have practically no weapon of defence, nor have the authorities, who are supposed to protect the general interests of salmon fisheries, including the all-important upkeep of stock in our rivers, any powers worthy of mention.

NUMBER of PACKAGES of SALMON delivered at or near **Billingsgate Market** during the year 1920,  
with average prices per lb. for the same.

Month.	English.	Irish.	Scotch.	Norway.	Dutch.	French.	Totals.	English.	Irish.	Scotch.	Norway.	Dutch.	French.
January	...	34	...	...	...	4	38	S. D. ...	S. D. 8 10 $\frac{1}{2}$	S. D. ...	S. D. ...	S. D. ...	S. D. 7 6
February	110	476	264	...	...	20	870	4 3 $\frac{1}{2}$	4 3 $\frac{1}{2}$	4 5	...	...	4 3
March	166	776	492	...	...	5	1,439	3 11 $\frac{1}{2}$	3 7 $\frac{1}{4}$	3 8 $\frac{3}{4}$	...	...	3 6
April	135	994	332	...	...	...	1,461	3 9 $\frac{1}{2}$	3 8 $\frac{3}{4}$	3 9 $\frac{1}{2}$	...	...	...
May	306	1,357	633	...	...	...	2,296	3 3 $\frac{1}{4}$	3 1 $\frac{1}{2}$	3 5	...	...	...
June	371	1,299	927	270	...	...	2,867	3 3	3 1	3 5 $\frac{3}{4}$	3 1	...	...
July	325	372	1,299	167	...	...	2,163	3 8 $\frac{1}{4}$	2 11 $\frac{3}{4}$	3 8 $\frac{1}{2}$	2 4	...	...
August	122	35	633	1	...	...	791	3 8 $\frac{1}{4}$	3 4 $\frac{3}{4}$	3 11 $\frac{1}{2}$	3 0	...	...
September	185	1	166	...	...	...	352	3 9 $\frac{1}{4}$	3 7 $\frac{1}{2}$	3 7 $\frac{1}{2}$	...	...	...
October	12	...	...	...	...	...	12	4 3	...	...	...	...	...
November	...	...	...	...	...	...	...	...	...	...	...	...	...
December	...	...	...	...	...	...	67	...	...	...	...	5 5 $\frac{1}{2}$	...
Totals	1,732	5,344	4,746	438	67	29	12,356	...	...	...	...	...	...

The Fishmongers' Co. of London have kindly supplied this return.



## ILLEGAL SALMON FISHING.

The period since the termination of the war has been rather remarkable for the amount of salmon poaching detected. Some extraordinary instances of illegal fishing were brought to my notice during the war, chiefly owing to the large numbers of timber-cutting overseas men concentrated in comparatively remote camps. An unfortunate legacy appears to have been left behind them. Cases have recently occurred in which 20 to 30 salmon have been found in the possession of men caught netting, and there appears to be a disposition for men to band together in such numbers as to make their capture a matter of great difficulty and danger. Netting just before the commencement of the open season in districts which have a good run of early fish, is, with prices as at present, extraordinarily profitable, and men can afford to accelerate their movements by the use of motor cars. District fishery boards are experiencing a good deal of difficulty in overcoming this class of offence.

## HYDRO-ELECTRIC POWER SCHEMES.

In this connection I would only venture to call attention to the tendency on the part of very many people who have no very intimate concern with salmon fisheries, to take it for granted that salmon and fresh water interests should inevitably be sacrificed. Without any very evident consideration of the question, the position is accepted that the trading of electric light and power to towns and villages, or the development of power for the benefit of, it may be, one particular commercial undertaking, is far more important than the supply of salmon to the community.

It is clear that no specially interested party is qualified to decide which is the more important, but it is clear also that the idea of sacrificing one or other as an inevitable result of rivalry, is a most imperfect way of looking at the matter. I am not aware, from coming in contact with very many specially interested in salmon fisheries, that there is any definite desire to oppose, *in toto*, the use of water for creation of power, as being inimical to fishing interests. But people very naturally ask that no unnecessary harm be done, and that conditions be adjusted so as to bring about a *modus vivendi*. It is clear that such adjustment can only be settled before works are constructed, and it seems likely that in the future, the services of some neutral authority for considering these matters as between promoters of orders and district fishery boards and others will be more needed than in the past.

W. L. CALDERWOOD.

## APPENDIX IV.

## ANNUAL CLOSE TIMES APPLICABLE TO THE SALMON RIVERS IN SCOTLAND.

N.B.—Observe that, in the following List, the days fixing the commencement and termination of the Annual Close Time for Net fishing, and for Rod-fishing, respectively, are in all cases inclusive, as in the case of the Add, the first river in the List.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Add . . . . .	From Sept. 1 to Feb. 15, both days inclusive.	From Nov. 1 to Feb. 15, both days inclusive.
Aline . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Alness . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Annan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Applecross . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Arnisdale ( <i>Loch Hourn</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Awe . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Aylort ( <i>Kinloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ayr . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Baa and Goladoir . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Badachro and Kerry ( <i>Gairloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Balgay and Shieldag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Beaully . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Berriedale . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Bervie . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Bladenoch . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Brora . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Carradale ( <i>in Cantyre</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Carron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Clayburn, Finnisbay, Aven- nangeren, Strathgravat, North Lacastile, Scalladale, and Mawrig ( <i>East Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Clyde and Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Conon . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Jan. 25.
Cree . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creed or Stornoway, and Laxay ( <i>Island of Lewis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creran ( <i>Loch Creran</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Croe and Shiel ( <i>Loch Duich</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Aberdeenshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Kirkcudbrightshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Deveron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Don . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Doon . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Drummachloy or Glenmore ( <i>Isle of Bute</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Oct. 16 to Feb. 15.
Dunbeath . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Earn . . . . .	From Aug. 21 to Feb. 4.	From Nov. 1 to Jan. 31.
Eckaig . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, North . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, South . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Ewe . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.



Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Fincastle, Meaveg, Ballanachist, South Lacastile, Borve, and Obb ( <i>West Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Findhorn . . . . .	From Aug. 27 to Feb. 10.	From Oct. 11 to Feb. 10.
Fleet ( <i>Sutherlandshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Fleet ( <i>Kirkcudbrightshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Forss . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 24.
Forth . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Jan. 31.
Fyne, Shira, and Aray ( <i>Loch Fyne</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Girvan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Glenelg . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gour . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Greiss, Laxdale, or Thunga . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Grudie or Dionard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gruinard and Little Gruinard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Halladale, Strathy, Naver, and BORGIE . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Helmsdale . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Hope and Polla or Strathbeg . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Howmore . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inchard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Inner ( <i>in Jura</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inver . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Iorsa ( <i>in Arran</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Irvine and Garnock . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Kannaird . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kilchoan or Inverie ( <i>Loch Nevis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kinloch ( <i>Kyle of Tongue</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kirkaig . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kishorn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kyle of Sutherland . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Laggan and Sorn ( <i>Island of Islay</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Laxford . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Little Loch Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lochy . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Duich . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Luing . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Roag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lossie . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Luce . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Lussa ( <i>Island of Mull</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Moidart . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Morar . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Mullanageren, Horasary, and Lochnacisto ( <i>North Uist</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Nairn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Naver and BORGIE, <i>see</i> Halladale. . . . .		
Nell, Feochan, and Euchar . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ness . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 1.
Nith . . . . .	From Sept. 10 to Feb. 24.	From Dec. 1 to Feb. 24.
Orkney Islands ( <i>River from Loch of Stenness, &amp;c.</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Ormsary ( <i>Loch Kullisport</i> ), Loch Head, and Stornoway ( <i>Mull of Cantyre</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Pennygowan or Glenforsa, and Aros . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Resort . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ruel . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Sanda . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Scaddle . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Shetland Islands ( <i>River of Sandwater, &amp;c.</i> ) . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Jan. 31.
Shiel ( <i>Loch Shiel</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Sligachan, Broadford, and Portree ( <i>Isle of Skye</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Snizort, Orley, Oze, and Drynoch ( <i>Isle of Skye</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Spey . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Stinchar . . . . .	From Sept. 10 to Feb. 24.	From Nov. 15 to Feb. 24.
Tay (except Earn) . . . .	From Aug. 21 to Feb. 4.	From Oct. 16 to Jan. 14.
Thurso . . . . .	From Aug. 27 to Feb. 10.	From Oct. 6 to Jan. 10.
Torridon, Balgay, and Shieldag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Tweed . . . . .	From Sept. 15 to Feb. 14.	From Dec. 1 to Jan. 31.
Ugie . . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Ullapool ( <i>Loch Broom</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Urr . . . . .	From Sept. 10 to Feb. 24.	From Nov. 30 to Feb. 24.
Wick . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ythan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 10.



# APPENDIX V.

## LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Alness . . .	Andrew Mackenzie, Esq., Dalmore House, Alness.	William J. Duncan, Solicitor, Dingwall.
Annan . . .	John T. M'Glasson, Esq., Newbie Villa, Annan.	David M'Jarrow, Solicitor, Lockerbie.
Ayr . . .	—	C. Young, W.S., County Buildings, Ayr.
Balgay . . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Bervie . . .	David Scott Porteous, Esq., of Lauriston, as Mandatory of the Commissioners of Woods and Forests.	W. C. Walls, Solicitor, Montrose.
Broom . . .	W. Ewing-Gilmour, Esq., of Inverlael, per A. W. G. Aitken, Esq., S.S.C., Edinburgh.	W. R. T. Middleton, Solicitor, Dingwall.
Carron (W. Ross)	Baron von Schroder of Attadale.	Arthur H. Duncan, Solicitor, Dingwall.
Conon . . .	John Little Mounsey, Esq., W.S., 5 Thistle Street, Edinburgh, Commissioner for Lord Seaforth.	W. R. T. Middleton, Solicitor, Dingwall.
Cree . . .	The Earl of Galloway, Cumloden, Newton-Stewart.	A. B. Matthews, Solicitor, Newton-Stewart.
Dee (Aberdeen)	The Lord Provost of Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Dee (Solway) .	Thomas Cross, Esq., Mandatory for Sir Charles Hope Dunbar, Bart., of St. Mary's Isle.	John Gibson, Solicitor, Kirkcudbright.
Deveron . . .	Wm. MacIntosh, Esq., Fife Lodge, Banff.	William Simpson, Solicitor, Banff.
Don . . .	George Davidson, Esq., Wellwood, Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Doon . . .	Marquis of Ailsa, Culzean Castle, Maybole.	C. Young, W.S., County Buildings, Ayr.
Dunbeath . . .	Mandatory of Commissioners of Woods, etc., London.	D. W. Georgeson, Solicitor, Wick.
Esk (North) . .	W. Douglas Johnston, Esq. (as Mandatory for Proprietors of Morphy Fishings), Montrose.	J. R. Findlay, Solicitor, Montrose.
Esk (South) . .	J. Noel Johnston, Esq., Montrose.	Alex. Middleton, Solicitor, Montrose.
Feochan . . .	The Marquis of Breadalbane, Taymouth Castle, Aberfeldy.	David Stewart, Solicitor, Oban.
Findhorn . . .	Viscount Novar, per J. J. Meiklejohn, Esq., factor.	C. Grant Mackenzie, Solicitor, Forres.
Forth . . .	Mandatory of Commissioners of Woods, etc., London.	Henry Robb, 11 Barnton Street, Stirling.
Girvan . . .	John Campbell Kennedy, Esq., of Dunure.	T. Gerald Tait, Solicitor, Girvan.
Gruinard and Little Gruinard	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.
Kyle of Sutherland . . .	Sir Charles Lockhart Ross, Bart., of Balnagowan.	John M'Crone, Solicitor, Dornoch.
Little Broom . .	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.

## APPENDIX V.—(continued)—LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Lochy . . .	Factor and Mandatory for the Trustees of the late Lord Abinger, Inverlochy Castle, Fort-William.	N. B. Mackenzie, Jr., Solicitor, Fort William.
Nairn . . .	Brodie of Brodie, Brodie Castle, Forres.	H. T. Donaldson, Solicitor, Nairn.
Ness . . .	Major E. C. Ellice of Glengarry, Fort-Augustus.	Anderson & Shaw, Solicitors, Inverness.
Nith . . .	The Provost of Dumfries.	J. E. Blacklock, Solicitor, Irish Street, Dumfries.
Sligachan, Broadford, & Portree(Skye)	G. M. Fraser, Esq., Solicitor, Portree, Mandatory for Lord Macdonald.	George Mackay Fraser, Solicitor, Portree.
Snizort, Orley, Oze, and Drynock (Skye)	G. M. Fraser, Esq., Solicitor, Portree, Mandatory for Lord Macdonald.	George Mackay Fraser, Solicitor, Portree.
Spey . . .	The Duke of Richmond and Gordon, Gordon Castle, Fochabers, per George Muirhead, Esq., Commissioner.	T. R. Mackenzie and A. F. Macdonald, Solicitors, Elgin.
Stincharr . . .	The Earl of Stair, Lochinch, Wigtownshire.	Stair M'Harrie, Rephad, Stranraer.
Tay . . .	P. D. Malloch, Esq., Mandatory for the Tay Salmon Fisheries Co., Perth.	Condie, Mackenzie, & Co., Solicitors, Perth.
Thurso . . .	Peter Keith, Esq., Mandatory for Sir Archibald H. M. Sinclair, Bart., of Ulbster.	David Keith-Murray, Solicitor, Thurso.
Torridon . . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Tweed (Police Committee of the Commissioners)	The Duke of Roxburgh, K.T., Floors Castle, Kelso.	David W. B. Tait, W.S., Kelso.
Ugie . . .	Lieut.-Col. Ferguson, of Pitfour, Mintlaw.	David Troup, Solicitor, Peterhead.
Wick . . .	Mrs. Duff Dunbar, of Hempriggs, Ackergill Tower, Wick.	D. W. Georgeson, Solicitor, Wick.
Ythan . . .	Earl of Errol, Slains Castle, Aberdeen-shire.	D. M. A. Chalmers, Advocate, Aberdeen.

NOTE.—In addition to the districts specified above, the Duke of Sutherland is joint proprietor of the Brora with Mr. Peter Haig-Thomas, and is joint proprietor, along with Mr. F. W. Wignall and Dr. T. H. Ward, of the Fleet. The Duke's Factor is Mr. A. N. Macaulay, Sutherland Estates Office, Golspie. Mr. V. W. Macandrew is proprietor of the Halladale, and Messrs. Birtwistle and Midwood of the Naver; Mr. Barnett is proprietor of the Borgia. The Duke of Westminster is sole proprietor of the Laxford, and Mr. Geo. Morrison of the Inchard. Sir Wm. Coats Cross and Captain Alex. Cross and Mr. Alex. Morrison are proprietors of the Kinloch. Mr. J. W. Stewart is sole proprietor in the Inver and Kirkaig districts (in charge of his factor, Mr. Murdo Kerr, Assynt Estate Office, Lochinver); Mr. W. E. Gilmour of Rosehall is sole proprietor of the rivers Dionard, Polla, Strathy, and Armadale, and part owner, with Mr. J. D. Milburn, of the River Hope district (Mr. A. Gunn, Overseer, Durness, by Lairg, acts for Mr. Gilmour; Lord Lovat has practically sole rights of fishing in the river Beaully (under the charge of his factor, Mr. J. T. Garrioch, Estate Office, Beaully); and the Countess of Cromarty is sole proprietrix of the district of the river Kannaird (under the charge of her factor, Mr. Alex. Taylor, Cromarty Estate Office, Kildary).



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TABLE A.—No. I.

MEANS OF CAPTURE.—RETURN of Vessels, Gear, and Fishermen engaged  
in the Scottish Fishing Industry in the Year 1920.

## I. SAILING VESSELS.

No.	District.	Number of Vessels.	Total Gross Tonnage.	Value.			Fishermen.		
				Vessels.	Fishing Gear.	Total.	Resident.	Non- resident.	Total.
	<b>EAST COAST.</b>			£	£	£			
1	Eyemouth . . . . .	30	90	594	667	1,261	58	...	58
2	Leith . . . . .	192	1,183	4,035	6,491	10,526	413	...	413
3	Anstruther . . . . .	163	999	4,448	8,522	12,970	264	...	264
4	Montrose . . . . .	126	526	2,839	2,272	5,111	204	...	204
5	Stonehaven . . . . .	69	104	999	1,584	2,583	81	...	81
6	Aberdeen . . . . .	52	81	665	1,098	1,763	107	...	107
7	Peterhead . . . . .	169	475	4,094	4,828	8,922	263	...	263
8	Fraserburgh . . . . .	249	386	4,135	3,529	7,664	395	...	395
9	Banff . . . . .	93	416	2,970	5,791	8,761	238	...	238
10	Buckie . . . . .	174	1,518	13,805	23,170	36,975	468	...	468
11	Findhorn . . . . .	33	240	1,320	2,523	3,843	56	...	56
12	Cromarty . . . . .	100	646	3,826	10,072	13,898	580	...	580
13	Helmsdale . . . . .	79	302	2,195	4,282	6,477	139	...	139
14	Lybster . . . . .	42	109	601	1,968	2,569	107	...	107
15	Wick . . . . .	186	484	1,982	5,547	7,529	438	...	438
	East Coast Totals . . . . .	1,757	7,559	48,508	82,344	130,852	3,811	...	3,811
	<b>Orkney and Shetland.</b>								
16	Orkney . . . . .	418	1,052	5,092	7,519	12,611	836	...	836
17	Shetland . . . . .	462	4,162	19,223	46,735	65,958	1,643	...	1,643
	Orkney and Shetland Totals . . . . .	880	5,214	24,315	54,254	78,569	2,479	...	2,479
	<b>WEST COAST.</b>								
18	Stornoway . . . . .	419	2,608	15,180	55,839	71,019	3,763	...	3,763
19	Barra . . . . .	251	399	3,231	4,865	8,096	849	...	849
20	Loch Broom . . . . .	361	805	7,596	17,920	25,516	887	...	887
21	Loch Carron & Skye . . . . .	322	707	4,707	9,850	14,557	635	...	635
22	Fort-William . . . . .	117	216	1,085	2,696	3,781	324	...	324
23	Campbeltown . . . . .	120	228	2,165	1,588	3,753	188	...	188
24	Inveraray . . . . .	73	110	811	1,147	1,958	105	...	105
25	Rothsay . . . . .	69	81	483	1,923	2,406	54	...	54
26	Greenock . . . . .	73	117	848	1,090	1,938	62	...	62
27	Ballantrae . . . . .	185 *40	354 199	3,260 2,790	5,115 1,304	8,375 4,094	172 80	...	172 80
	West Coast Totals . . . . .	2,021	6,124	42,156	103,337	145,493	7,119	...	7,119
	Grand Totals for 1920 . . . . .	4,658	13,897	114,979	239,935	354,914	13,409	...	13,409
	Grand Totals for 1919 . . . . .	3,722	...	122,823	235,416	358,239	...	...	9,880
	Increase in 1920 . . . . .	936	...	...	4,519	...	...	...	3,579
	Decrease in 1920 . . . . .	...	...	7,844	...	3,325	...	...	...

\* Sailing Trawlers.

TABLE A.—No. I.—  
MEANS OF CAPTURE.—RETURN of Vessels, Gear, and Fishermen

## II. MOTOR

No.	District.	Engaged in Herring Fishing.		Engaged in White-Fish Fishing.		Total.	
		Number of Vessels.	Gross Tonnage.	Number of Vessels.	Gross Tonnage.	Number of Vessels.	Gross Tonnage.
EAST COAST.							
1	Eyemouth . . .	49	1,576	27	156	76	1,732
2	Leith . . . . .	79	1,795	49	185	128	1,980
3	Anstruther . . .	85	3,412	58	264	143	3,676
4	Montrose . . . .	10	446	117	1,044	127	1,490
5	Stonehaven . . .	...	...	20	183	20	183
6	Aberdeen . . . .	...	...	29	265	29	265
7	Peterhead . . . .	17	742	46	205	63	947
8	Fraserburgh . . .	134	5,770	59	432	193	6,202
9	Banff . . . . .	41	1,655	91	632	132	2,287
10	Buckie . . . . .	119	5,236	11	76	130	5,312
11	Findhorn . . . .	22	943	79	626	101	1,569
12	Cromarty . . . .	7	39	10	38	17	77
13	Helmsdale . . . .	2	75	39	166	41	241
14	Lybster . . . . .	...	...	5	12	5	12
15	Wick . . . . .	32	955	77	329	109	1,284
East Coast Totals .		597	22,644	717	4,613	1,314	27,257
Orkney and Shetland							
16	Orkney . . . . .	...	...	55	174	55	174
17	Shetland . . . . .	48	1,320	22	140	70	1,460
Orkney and Shet- land Totals .		48	1,320	77	314	125	1,634
WEST COAST.							
18	Stornoway . . . .	18	296	...	...	18	296
19	Barra . . . . .	30	505	...	...	30	505
20	Loch Broom . . . .	25	183	...	...	25	183
21	Loch Carron & Skye	82	703	...	...	82	703
22	Fort-William . . .	17	168	13	35	30	203
23	Campbeltown . . .	81	747	9	51	90	798
24	Inveraray . . . .	72	638	...	...	72	638
25	Rothsay . . . . .	27	152	...	...	27	152
26	Greenock . . . . .	28	164	...	...	28	164
27	Ballantrae . . . .	106	721	...	...	106	721
West Coast Totals		486	4,277	22	86	508	4,363
Grand Totals for 1920		1,131	28,241	816	5,013	1,947	33,254
Grand Totals for 1919		...	...	...	...	1,751	...
Increase in 1920 .		...	...	...	...	196	...
Decrease in 1920 .		...	...	...	...	...	...



continued.

engaged in the Scottish Fishing Industry in the Year 1920.

## VESSELS.

Value.			Fishermen.			District.	No.
Vessels.	Fishing Gear.	Total.	Resident.	Non-Resident.	Total.		
£	£	£					
<b>EAST COAST.</b>							
54,270	44,000	98,270	346	...	346	Eyemouth . . .	1
81,350	46,959	128,309	679	...	679	Leith . . .	2
128,210	68,065	196,275	804	46	850	Anstruther . . .	3
76,870	27,482	104,352	470	...	470	Montrose . . .	4
12,750	3,094	15,844	78	...	78	Stonehaven . . .	5
15,250	4,404	19,654	133	...	133	Aberdeen . . .	6
28,640	13,430	42,070	192	3	195	Peterhead . . .	7
157,790	91,657	249,447	834	24	858	Fraserburgh . . .	8
87,900	45,187	133,087	579	...	579	Banff . . .	9
147,240	130,746	277,986	884	...	884	Buckie . . .	10
44,820	26,946	71,766	450	...	450	Findhorn . . .	11
5,950	1,642	7,592	68	...	68	Cromarty . . .	12
10,580	7,726	18,306	161	...	161	Helmsdale . . .	13
510	201	711	14	...	14	Lybster . . .	14
69,010	34,278	103,288	453	...	453	Wick . . .	15
921,140	545,817	1,466,957	6,145	73	6,218	East Coast Totals	
<b>Orkney and Shetland.</b>							
4,320	1,018	5,338	137	...	137	Orkney . . .	16
49,730	22,072	71,802	301	...	301	Shetland . . .	17
54,050	23,090	77,140	438	...	438	Orkney and Shetland Totals	
<b>WEST COAST.</b>							
8,550	8,816	17,366	97	...	97	Stornoway . . .	18
10,150	7,604	17,754	169	...	169	Barra . . .	19
5,715	4,357	10,072	98	...	98	Loch Broom . . .	20
25,550	18,056	43,606	308	...	308	Loch Carron & Skye	21
6,450	1,865	8,315	107	...	107	Fort-William . . .	22
30,880	12,465	43,345	410	...	410	Campbeltown . . .	23
24,980	8,388	33,368	238	...	238	Inveraray . . .	24
4,735	3,298	8,033	82	...	82	Rothsay . . .	25
5,400	2,762	8,162	70	...	70	Greenock . . .	26
35,870	13,218	49,088	293	...	293	Ballantrae . . .	27
158,280	80,829	239,109	1,922	...	1,922	West Coast Totals	
1,133,470	649,736	1,783,206	8,505	73	8,578	Grand Totals for 1920	
1,170,309	652,669	1,822,978	...	...	8,016	Grand Totals for 1919	
...	...	...	...	...	562	Increase in 1920	
36,839	2,933	39,772	...	...	...	Decrease in 1920	

TABLE A.—No. I.—  
MEANS OF CAPTURE.—RETURN of Vessels, Gear, and Fishermen  
III. STEAM DRIFTERS

No.	District.	Scottish.							
		Number.	Tonnage.	Value.			Fishermen.		
				Vessels.	Fishing Gear.	Total.	Resident.	Non-Resident.	Total.
	<b>EAST COAST.</b>			£	£	£			
1	Eyemouth . . .	18	610	50,400	26,720	77,120	180	...	180
2	Leith . . .	4	228	20,000	5,440	25,44	32	...	32
3	Anstruther . . .	53	1,835	190,800	78,440	269,240	480	30	510
4	Montrose . . .	*2	9	90	6	96	4	...	4
5	Stonehaven . . .	5	258	24,500	7,180	31,680	50	...	50
6	Aberdeen . . .	14	491	34,000	25,535	59,535	112	...	112
7	Peterhead . . .	†16	834	89,300	19,053	108,353	160	...	160
8	Fraserburgh . . .	125	4,298	356,000	147,894	503,894	752	28	780
9	Banff . . .	87	3,062	284,500	90,536	375,036	659	27	686
10	Buckie . . .	86	2,881	301,000	105,802	406,802	602	...	602
11	Findhorn . . .	285	9,645	1,054,500	394,485	1,448,985	2,400	165	2,565
12	Cromarty . . .	112	3,834	356,700	141,760	498,460	1,008	...	1,008
13	Helmsdale . . .	1	31	2,800	750	3,550	9	...	9
14	Lybster . . .	1	25	3,000	845	3,845	8	...	8
15	Wick . . .	...	...	...	...	...	...	...	...
	East Coast Totals .	824	28,521	2,807,590	1,064,876	3,872,466	6,566	250	6,816
	<b>Orkney and Shetland.</b>								
16	Orkney . . .	...	...	...	...	...	...	...	...
17	Shetland . . .	12	433	39,100	9,029	48,129	99	10	109
	Orkney and Shetland Totals .	12	433	39,100	9,029	48,129	99	10	109
	<b>WEST COAST.</b>								
18	Stornoway . . .	18	1,269	43,200	27,528	70,728	162	...	162
19	Barra . . .	...	...	...	...	...	...	...	...
20	Loch Broom . . .	...	...	...	...	...	...	...	...
21	Loch Carron & Skye . . .	...	...	...	...	...	...	...	...
22	Fort-William . . .	...	...	...	...	...	...	...	...
23	Campbeltown . . .	...	...	...	...	...	...	...	...
24	Inveraray . . .	...	...	...	...	...	...	...	...
25	Rothsay . . .	...	...	...	...	...	...	...	...
26	Greenock . . .	...	...	...	...	...	...	...	...
27	Ballantrae . . .	...	...	...	...	...	...	...	...
	West Coast Totals	18	1,269	43,200	27,528	70,728	162	...	162
	Grand Totals for 1920	854	30,223	2,889,890	1,101,433	3,991,323	6,827	260	7,087
	Grand Totals for 1919	871	...	2,273,874	861,639	3,135,513	...	...	5,759
	Increase in 1920 .	183	...	616,016	239,794	855,810	...	...	1,328
	Decrease in 1920 .	...	...	...	...	...	...	...	...

\* Mussel Dredgers.

† Liners only.



continued.

engaged in the Scottish Fishing Industry in the Year 1920.

OR LINERS.

Other than Scottish.								District.	No.
Number.	Tonnage.	Value.			Fishermen.				
		Vessels.	Fishing Gear.	Total.	Resident.	Non-Resident.	Total.		
		£	£	£					
...	...	...	...	...	...	...	...	<b>EAST COAST.</b>	
...	...	...	...	...	...	...	...	Eyemouth . . .	1
...	...	...	...	...	...	...	...	Leith . . .	2
...	...	...	...	...	...	...	...	} Anstruther . . .	3
...	...	...	...	...	...	...	...		Montrose . . .
...	...	...	...	...	...	...	...	Stonehaven . . .	5
...	...	...	...	...	...	...	...	} Aberdeen . . .	6
3	155	21,000	1,350	22,350	29	...	29		Peterhead . . .
25	925	73,750	28,230	101,980	...	245	245	Fraserburgh . . .	8
50	1,750	175,000	50,800	225,800	30	470	500	Banff . . .	9
...	...	...	...	...	...	...	...	Buckie . . .	10
...	...	...	...	...	...	...	...	Findhorn . . .	11
...	...	...	...	...	...	...	...	Cromarty . . .	12
...	...	...	...	...	...	...	...	Helmsdale . . .	13
...	...	...	...	...	...	...	...	Lybster . . .	14
40	1,200	200,000	54,190	254,190	...	400	400	Wick . . .	15
118	4,030	469,750	134,570	604,320	59	1,115	1,174	East Coast Totals	
...	...	...	...	...	...	...	...	<b>Orkney and Shetland.</b>	
...	...	...	...	...	...	...	...	Orkney . . .	16
215	8,170	752,500	191,995	944,495	...	2,150	2,150	Shetland . . .	17
215	8,170	752,500	191,995	944,495	...	2,150	2,150	Orkney and Shetland Totals	
...	...	...	...	...	...	...	...	<b>WEST COAST.</b>	
...	...	...	...	...	...	...	...	Stornoway . . .	18
...	...	...	...	...	...	...	...	Barra . . .	19
...	...	...	...	...	...	...	...	Loch Broom . . .	20
...	...	...	...	...	...	...	...	Loch Carron & Skye	21
...	...	...	...	...	...	...	...	Fort-William . . .	22
...	...	...	...	...	...	...	...	Campbeltown . . .	23
...	...	...	...	...	...	...	...	Inveraray . . .	24
...	...	...	...	...	...	...	...	Rothsay . . .	25
...	...	...	...	...	...	...	...	Greenock . . .	26
...	...	...	...	...	...	...	...	Ballantrae . . .	27
...	...	...	...	...	...	...	...	West Coast Totals	
333	12,200	1,222,250	326,565	1,548,815	59	3,265	3,324	Grand Totals for 1920	
96	...	290,200	107,941	398,141	...	...	911	Grand Totals for 1919	
237	...	932,050	218,624	1,150,674	...	...	2,413	Increase in 1920	
...	...	...	...	...	...	...	...	Decrease in 1920	

TABLE A.—No. I.—*continued.*

MEANS OF CAPTURE.—RETURN of Vessels, Gear, and Fishermen engaged in the Scottish Fishing Industry in the Year 1920.

## IV. STEAM TRAWLERS.

No.	District.	Number of Vessels.	Total Gross Tonnage.	Value.			Fishermen.		
				Vessels.	Fishing Gear.	Total.	Resident.	Non-resident.	Total.
	<b>EAST COAST.</b>			£	£	£			
1	Eyemouth . . .	67	4,235	603,000	22,110	625,110	603	...	603
2	Leith . . .	* 2	154	20,000	660	20,660	18	...	18
3	Anstruther . . .	...	...	...	...	...	...	...	...
4	Montrose . . .	26	2,097	337,000	15,340	352,340	265	...	265
5	Stonehaven . . .	...	...	...	...	...	...	...	...
6	Aberdeen . . .	232	17,025	2,495,150	150,800	2,645,950	2,450	...	2,450
7	Peterhead . . .	* 29	2,272	292,000	18,850	310,850	293	11	304
8	Fraserburgh . . .	17	1,108	178,500	5,950	184,450	170	...	170
9	Banff . . .	...	...	...	...	...	...	...	...
10	Buckie . . .	...	83	9,000	600	9,600	18	...	18
11	Findhorn . . .	...	...	...	...	...	...	...	...
12	Cromarty . . .	...	...	...	...	...	...	...	...
13	Helmsdale . . .	...	...	...	...	...	...	...	...
14	Lybster . . .	...	...	...	...	...	...	...	...
15	Wick . . .	...	...	...	...	...	...	...	...
	<b>East Coast Totals .</b>	<b>375</b>	<b>26,974</b>	<b>3,934,650</b>	<b>214,310</b>	<b>4,148,960</b>	<b>3,817</b>	<b>11</b>	<b>3,828</b>
	<b>Orkney and Shetland.</b>								
16	Orkney . . .	...	...	...	...	...	...	...	...
17	Shetland . . .	...	...	...	...	...	...	...	...
	<b>Orkney and Shetland Totals .</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>
	<b>WEST COAST.</b>								
18	Stornoway . . .	...	...	...	...	...	...	...	...
19	Barra . . .	...	...	...	...	...	...	...	...
20	Loch Broom . . .	...	...	...	...	...	...	...	...
21	Loch Carron and Skye	...	...	...	...	...	...	...	...
22	Fort-William . . .	...	...	...	...	...	...	...	...
23	Campbeltown . . .	...	...	...	...	...	...	...	...
24	Inveraray . . .	...	...	...	...	...	...	...	...
25	Rothsay . . .	...	...	...	...	...	...	...	...
26	Greenock . . .	8	616	64,000	2,800	66,800	75	...	75
27	Ballantrae . . .	2	154	22,000	450	22,450	...	18	18
	<b>West Coast Totals .</b>	<b>10</b>	<b>770</b>	<b>86,000</b>	<b>3,250</b>	<b>89,250</b>	<b>75</b>	<b>18</b>	<b>93</b>
	<b>Grand Totals for 1920</b>	<b>385</b>	<b>27,744</b>	<b>4,020,650</b>	<b>217,560</b>	<b>4,238,210</b>	<b>3,892</b>	<b>29</b>	<b>3,921</b>
	<b>Grand Totals for 1919</b>	<b>294</b>	<b>...</b>	<b>3,341,225</b>	<b>167,360</b>	<b>3,508,585</b>	<b>...</b>	<b>...</b>	<b>2,892</b>
	<b>Increase in 1920 .</b>	<b>91</b>	<b>..</b>	<b>679,425</b>	<b>50,200</b>	<b>729,625</b>	<b>...</b>	<b>...</b>	<b>1,029</b>
	<b>Decrease in 1920 .</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

\* Steam Trawlers other than Scottish.











TABLE A.—No. I.—  
MEANS OF CAPTURE.—RETURN of Vessels, Gear, and Fishermen  
VII.—FISHING GEAR.—

No.	District.	Nets.							Total.
		Drift.	Herring Seine.	Cod.	Trammel.	Flounder (Seine).	Flounder (Set).	Other Kinds.	
	<b>EAST COAST.</b>	Sq. Yards.	Sq. Yards.	Sq. Yards.	Sq. Yards.	Sq. Yards.	Sq. Yards.	Sq. Yards.	Sq. Yards.
1	Eymouth . . .	5,208,000	23,040	54,000	...	...	...	72,000	5,357,040
2	Leith . . .	3,678,000	13,200	12,800	...	28,500	...	156,000	3,888,000
3	Anstruther . . .	9,888,000	480	708,000	...	...	132,000	92,900	10,821,380
4	Montrose . . .	2,260,000	...	27,000	...	40,000	1,000	8,250	2,336,250
5	Stonehaven . . .	90,000	...	...	...	5,600	...	1,920	97,520
6	Aberdeen . . .	1,926,000	...	...	...	12,000	...	...	1,938,000
7	Peterhead . . .	19,224,000	...	52,800	...	...	...	...	19,276,800
8	Fraserburgh . . .	24,211,000	...	295,200	...	...	...	...	24,506,200
9	Banff . . .	14,196,000	...	1,555,200	...	...	...	...	15,751,200
10	Buckie . . .	46,470,000	...	2,436,000	...	...	...	...	48,906,000
11	Findhorn . . .	15,569,000	...	480,000	...	...	...	...	16,049,000
12	Cromarty . . .	922,000	...	132,000	...	...	...	...	1,054,000
13	Helmsdale . . .	654,000	...	267,600	...	...	...	...	921,600
14	Lybster . . .	224,250	...	...	...	...	...	...	224,250
15	Wick . . .	10,273,650	...	66,600	...	...	...	...	10,340,250
	<b>East Coast Totals</b>	<b>154,793,900</b>	<b>36,720</b>	<b>6,086,700</b>	<b>...</b>	<b>86,100</b>	<b>133,000</b>	<b>331,070</b>	<b>161,467,490</b>
	<b>Orkney and Shetland.</b>								
16	Orkney . . .	462,000	...	...	...	...	...	...	462,000
17	Shetland . . .	18,363,000	...	70,000	...	...	...	...	18,433,000
	<b>Orkney and Shetland Totals</b>	<b>18,825,000</b>	<b>...</b>	<b>70,000</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>18,895,000</b>
	<b>WEST COAST.</b>								
18	Stornoway . . .	6,289,900	...	...	...	...	...	...	6,289,900
19	Barra . . .	1,261,800	...	...	...	...	...	...	1,261,800
20	Loch Broom . . .	2,631,000	...	673,000	8,000	...	...	...	3,312,000
21	Loch Carron & Skye	1,735,500	88,000	...	2,520	...	...	366,480	2,192,500
22	Fort-William . . .	446,500	4,000	65,600	...	...	...	6,400	522,500
23	Campbeltown . . .	105,800	910,000	...	7,200	...	...	41,000	1,064,000
24	Inveraray . . .	66,000	540,000	18,000	18,400	...	3,500	...	645,900
25	Rothsay . . .	330,000	162,000	...	...	...	...	218,000	710,000
26	Greenock . . .	165,000	115,500	...	...	...	...	87,500	368,000
27	Ballantrae . . .	1,060,000	306,000	163,520	230,500	11,700	...	31,950	1,803,670
	<b>West Coast Totals</b>	<b>14,091,500</b>	<b>2,125,500</b>	<b>920,120</b>	<b>266,620</b>	<b>11,700</b>	<b>3,500</b>	<b>751,330</b>	<b>18,170,270</b>
	<b>Grand Totals for 1920</b>	<b>187,710,400</b>	<b>2,162,220</b>	<b>7,076,820</b>	<b>266,620</b>	<b>97,800</b>	<b>136,500</b>	<b>1,082,400</b>	<b>198,532,760</b>





TABLE A.—No. I.—

MEANS OF CAPTURE—RETURN of Vessels, Gear, and Fishermen

## VII. FISHING GEAR.—

No.	District.	Nets.							
		Drift.	Herring Seine.	Cod.	Trammel.	Flounder (Seine).	Flounder (Set).	Other Kinds.	Total.
	<b>EAST COAST.</b>	£	£	£	£	£	£	£	£
1	Eyemouth . .	50,800	240	270	...	...	...	1,050	52,360
2	Leith . . .	40,460	220	980	...	781	...	1,340	43,781
3	Anstruther . .	91,940	14	4,874	...	...	1,270	554	98,52
4	Montrose . . .	16,850	...	405	...	1,800	20	300	19,375
5	Stonehaven . .	600	...	...	...	280	...	6	886
6	Aberdeen . . .	19,560	...	...	...	560	...	...	20,120
7	Peterhead . . .	144,180	...	352	...	...	...	...	144,532
8	Fraserburgh . .	176,080	...	1,230	...	...	...	...	177,310
9	Banff . . . .	111,840	...	6,480	...	...	...	...	118,320
10	Buckie . . . .	464,700	...	5,800	...	...	...	...	470,500
11	Findhorn . . .	130,150	...	3,880	...	...	...	...	134,030
12	Cromarty . . .	8,420	...	1,100	...	...	...	...	9,520
13	Helmsdale . . .	4,330	...	2,384	...	...	...	...	6,714
14	Lybster . . . .	1,035	...	...	...	...	...	...	1,035
15	Wick . . . . .	91,093	...	740	...	...	...	...	91,833
	<b>East Coast Totals</b>	<b>1,352,038</b>	<b>474</b>	<b>28,495</b>	<b>...</b>	<b>3,421</b>	<b>1,290</b>	<b>3,250</b>	<b>1,388,968</b>
	<b>Orkney and Shetland.</b>								
16	Orkney . . . .	2,695	...	...	...	...	...	...	2,695
17	Shetland . . .	174,525	...	420	...	...	...	...	174,945
	<b>Orkney and Shetland Totals</b>	<b>177,220</b>	<b>..</b>	<b>420</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>177,640</b>
	<b>WEST COAST.</b>								
18	Stornoway . . .	60,870	...	...	...	...	...	...	60,870
19	Barra . . . . .	7,673	...	...	...	...	...	...	7,673
20	Loch Broom . .	11,290	...	3,740	80	...	...	...	15,110
21	Loch Carron & Skye	14,003	1,485	...	35	...	...	4,540	20,063
22	Fort-William . .	2,039	100	615	...	...	...	60	2,814
23	Campbeltown . .	496	10,500	...	36	...	...	380	11,412
24	Inveraray . . .	258	7,600	60	120	...	22	...	8,060
25	Rothsay . . . .	1,471	1,500	...	...	...	...	872	3,843
26	Greenock . . . .	1,127	1,070	...	...	...	...	618	2,815
27	Ballantrae . . .	5,300	3,570	3,066	922	156	...	857	13,871
	<b>West Coast Totals</b>	<b>104,527</b>	<b>25,825</b>	<b>7,481</b>	<b>1,193</b>	<b>156</b>	<b>22</b>	<b>7,327</b>	<b>146,531</b>
	<b>Grand Totals for 1920</b>	<b>1,633,785</b>	<b>26,299</b>	<b>36,396</b>	<b>1,193</b>	<b>3,577</b>	<b>1,312</b>	<b>10,577</b>	<b>1,713,139</b>



continued.

engaged in the Scottish Fishing Industry in the year 1920.

(b) VALUES.

Lines.				Bush Ropes, Buoy Ropes, and Stoppers.	Crab and Lobster Creels.	Trawl Gear.	Total.	District.	No.
Great.	Small.	Hand.	Total.						
£	£	£	£	£	£	£	£	EAST COAST.	
3,580	2,036	33	5,649	12,679	699	...	71,387	Eyemouth . . .	1
772	3,872	62	4,706	9,307	1,096	22,770	81,660	Leith . . .	2
22,868	2,922	89	25,879	29,462	1,040	...	155,033	Anstruther . . .	3
4 005	5,256	59	9,320	7,130	654	15,795	52,274	Montrose . . .	4
492	1,968	64	2,524	959	309	...	4,678	Stonehaven . . .	5
20,856	2,088	17	22,961	8,275	84	169,650	221,090	Aberdeen . . .	6
6,762	4,875	267	11,904	37,551	35	6,310	200,332	Peterhead . . .	7
5,610	4,328	133	10,071	48,787	354	...	236,522	Fraserburgh . .	8
2,340	7,300	204	9,844	28,316	300	...	156,780	Banff . . .	9
680	3,992	178	4,850	72,959	92	600	549,001	Buckie . . .	10
450	3,066	47	3,563	33,600	36	...	171,229	Findhorn . . .	11
...	1,184	19	1,203	1,687	54	...	12,464	Cromarty . . .	12
610	3,711	121	4,442	1,337	360	...	12,853	Helmsdale . . .	13
216	639	81	936	84	114	...	2,169	Lybster . . .	14
1,029	2,550	655	4,234	16,088	2,290	...	114,445	Wick . . .	15
70,270	49,787	2,029	122,086	308,221	7,517	215,125	2,041,917	East Coast Totals.	
260	386	236	882	1,751	3,209	...	8,537	Orkney . . .	16
5,882	4,917	460	11,259	83,606	21	...	269,831	Shetland . . .	17
6,142	5,303	696	12,141	85,357	3,230	...	278,368	Orkney and Shet- land Totals.	
11,010	3,154	272	14,436	14,528	2,349	...	92,183	Stornoway . . .	18
1,076	598	166	1,840	1,928	1,028	...	12,469	Barra . . .	19
874	2,838	223	3,935	2,292	940	...	22,277	Loch Broom . .	20
3,515	729	131	4,375	1,872	1,596	...	27,906	Loch Carron & Skye	21
560	117	73	750	406	591	...	4,561	Fort-William . .	22
497	231	26	754	1,098	789	...	14,053	Campbeltown . .	23
200	196	...	396	761	318	...	9,535	Inveraray . . .	24
410	180	10	600	738	40	...	5,221	Rothsay . . .	25
128	188	31	347	477	213	2,800	6,652	Greenock . . .	26
3,038	473	47	3,558	486	418	1,754	20,087	Ballantrae . . .	27
21,308	8,704	979	30,991	24,586	8,282	4,554	214,944	West Coast Totals.	
97,720	63,794	3,704	165,218	418,164	19,029	219,679	2,535,229	Grand Totals for 1920	

TABLE A.—

RETURN giving Particulars regarding the State of the Fisheries at each

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	Non-Resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.							
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.											
<i>Eyemouth District.‡</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.		
North Shields (Northumber- land)	\$52 16 }	..	..	3	..	5	8	2	3	89	4,505	29	255	6	590	..		
Cullercoats	..	..	..	..	..	1	41	..	9	51	168	10	43	5	72	..		
Blyth	..	..	..	..	..	2	4	1	2	9	25	8	377	1	12	..		
Newbiggin	..	..	3	..	1	..	59	..	17	80	303	1	149	8	55	..		
Cresswell	..	..	..	..	..	..	2	..	2	4	6	1	3	2	6	..		
Hauxley	..	..	..	..	..	..	5	..	4	9	29	1	2	3	20	..		
Amble	..	..	..	..	..	1	6	..	1	8	24	4	14	2	12	..		
Alnmouth	..	..	..	..	..	..	2	..	2	4	8	1	3	1	6	..		
Boulmer	..	..	..	..	..	..	19	..	3	22	57	3	5	4	25	..		
Craster	..	..	..	..	..	1	18	..	1	20	55	1	39	3	30	..		
Newton	..	..	..	..	..	..	12	..	5	17	44	..	2	2	23	..		
Beadnell	..	..	..	..	..	7	22	..	9	33	112	7	85	6	40	..		
North Sunderland	..	1	2	1	..	4	27	..	1	36	280	9	54	8	62	..		
Holy Island	..	..	..	1	..	1	7	1	..	10	42	2	33	3	36	..		
Spittal	..	..	..	1	..	2	1	..	2	6	30	2	47	..	18	..		
Berwick	..	2	..	1	..	3	10	..	2	18	126	2	135	6	40	..		
English Stations—Totals	68	3	5	7	1	27	243	4	63	421	5,814	31	684	60	1,047	..		
Burnmouth (Berwickshire)	..	2	..	8	1	..	13	..	10	34	150	13	203	4	88	..		
Eyemouth	18	35	1	2	..	2	2	..	..	60	1,810	18	396	4	409	..		

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.

‡ Landings in English section not recorded by Board.

§ Trawlers.



## No. II.

Fishing Creek or Station on the Scottish Coasts during the year 1920.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Trawl and drift nets and lines.	The North Sea.	..	..	..	..	..	Herrings, haddocks, cod, and flat fish.	20	50,087 crans herrings landed, value £148,841. Decreases of 15,056 crans and £5,437 from previous year. Considerable increase in landings of white fish.
Lines and creels.	Inshore.	..	..	..	..	..	Haddocks and codlings.	..	Average line fishing; increase in crabs and lobsters.
"	"	..	..	..	..	..	Herrings, haddocks, and codlings.	2	Increase in herrings—988 crans landed, value £2,219. Average catch of white fish and crabs.
"	"	..	..	..	..	..	Haddocks, codlings, and crabs.	1	Herrings landed, 246 crans, value £984. Slight increase in other kinds.
"	"	..	..	..	..	..	"	..	Decrease in white fish; improvement in crab and lobster fishing.
"	"	..	..	..	..	..	"	..	Average white fishing; improvement in crab and lobster fishing.
"	"	..	..	..	..	..	"	..	Do. do. do.
"	"	..	..	..	..	..	"	..	Average catch.
"	"	..	..	..	..	..	"	..	Average line fishing; increase in crabs and lobsters.
"	"	..	..	..	..	..	Herrings, haddocks, codlings, and crabs.	3	Herrings landed, 1,452 crans, value £3,473. Average line fishing, slight increase in crabs and lobsters.
"	"	..	..	..	..	..	Haddocks, codlings, and crabs.	..	Average line and crab fishing.
"	"	..	..	..	..	..	"	..	Do. do. do.
Nets, lines, and creels.	2 to 25 miles offshore.	..	..	..	..	..	Herrings, haddocks, codlings, and crabs.	3	Increase in herrings. 5,908 crans landed, value £13,868. Average line and crab fishings.
Lines and creels.	Inshore.	..	..	..	..	..	Haddocks, codlings, and crabs.	..	Average fishing.
"	"	..	..	..	..	..	Herrings, haddocks, codlings, and crabs.	5	{ Decided improvement in herring fishing—10,526 crans landed, value £25,256. Average line fishing.
Nets, lines, and creels.	2 to 40 miles offshore.	..	..	..	..	..	"	6	
		..	..	..	..	..		40	
Nets, lines, and creels.	2 to 40 miles offshore.	..	..	2,864	4,205	6,417	Haddocks, codlings, and crabs.	..	Decrease in line fishing; marked increase in crabs and lobsters. Two local crews prosecuted the summer herring fishing.
"	"	61,692	45,490	7,392	11,502	49	Herrings, mackerel, haddocks, and codlings.	14	Summer herring fishing yielded much better results than in the preceding year. Considerable decrease in line fishing. Forty crews prosecuted the autumn herring fishing at Yarmouth with satisfactory results.

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.												Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	† Non Resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.					
	45 feet keel and upwards.			30 to 45 feet keel.			18 to 30 feet keel.		Under 18 feet keel.							
<i>Eyemouth District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
St Abbs (Berwickshire) - -	..	12	..	2	..	10	..	3	3	30	472	1	110	1	87	..
Scottish Stations—Totals -	18	49	1	12	1	12	15	3	13	124	2,432	30	709	9	584	..
English Stations—Totals -	68	3	5	7	1	27	243	4	63	421	5,814	31	634	60	1,047	..
Grand Totals for District -	86	52	6	19	2	39	258	7	76	545	8,246	61	1,393	69	1,631	..
<i>Leith District.</i>																
Cove (Berwickshire) - -	..	..	..	..	..	2	7	..	..	9	26	1	1	1	18	..
Dunbar (Haddingtonshire) -	..	..	..	2	..	5	19	..	..	26	96	5	12	..	81	..
North Berwick „ -	..	..	..	..	..	4	..	..	..	4	11	2	1	2	16	..
Port Seton and Cockenzie (Haddingtonshire)	1	27	3	26	..	14	2	..	4	77	1,643	21	633	2	357	..
Prestonpans „	..	..	..	..	..	..	..	..	4	4	4	1	41	..	8	..
Fisherrow (Midlothian) -	2	5	..	15	..	..	5	..	3	30	513	..	72	1	272	..
Leith „ -	15 1	..	..	..	..	..	..	..	..	6	420	1	115	..	54	..
Newhaven „ -	..	..	..	4	..	18	13	..	2	42	182	3	6	2	132	..
Granton „ -	162	..	..	..	..	..	..	..	..	62	3,847	13	921	..	575	..
Bo'ness (Linlithgowshire) -	..	..	5	..	2	..	1	..	1	9	193	4	46	..	18	..
Alloa (Clackmannanshire) -	..	..	..	..	13	..	3	..	7	23	347	8	31	..	24	..
Kincardine (Fifeshire) -	..	..	7	..	3	..	..	..	..	10	240	1	60	..	15	..
Limekilns „ -	..	..	..	..	..	..	..	..	..	..	4	6	..	..	..	..
Inverkeithing „ -	..	..	..	..	..	..	..	..	3	3	3	1	2	..	6	..
Aberdour „ -	..	..	..	..	..	1	3	..	..	4	17	1	..	..	12	..
Burntisland „ -	..	..	..	..	..	..	..	..	13	13	11	8	4	..	18	..
Kinghorn „ -	..	..	..	..	..	..	3	..	6	9	9	1	1	..	14	..
Kirkcaldy „ -	..	..	..	..	..	4	4	1	23	37	40	15	10	..	79	..
Dysart and Wemyss (Fifeshire)	..	..	..	..	..	..	3	..	20	23	24	8	6	..	46	..
Totals - -	71	32	15	47	18	48	68	1	91	391	7,626	34	650	8	1,745	..

\* Drifters or liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.

‡ Trawlers.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Nets, lines and creels.	2 to 40 miles offshore.	..	..	256	357	2,305	Haddocks, codlings, and crabs.	..	Line fish mostly landed at Eyemouth. Decided improvement in crab and lobster returns. Two local crews prosecuted the summer herring fishing at Ireland and two were at Yarmouth in autumn.
		61,692	45,490	10,512	16,064	8,771		14	
		..	..	..	..	..		40	
		..	..	..	..	..		54	
Crabcreels.	1 to 5 miles offshore.	..	..	400	338	2,624	Crabs and lobsters.	..	An important crab and lobster fishery carried on. Increase in quantity and value of fish landed. The fisheries are declining at this once important creek. Increase in quantity and value of fish landed. Only four motor line crews working. Results almost the same as in 1919. An active body of fishermen reside at these places. Results almost the same as in 1919. A creek of no note so far as the fisheries are concerned. The fisheries are receiving less attention yearly at this creek. A number of the fishermen go as hired men. Of no importance so far as actual fishing is concerned, but an important centre for exporting and importing cured fish. An historical herring fishing station, but interest in the fishing is dwindling. Results almost similar to 1919. Headquarters of the district trawling; it has now assumed its prewar position as a trawling port. Large increases in quantity and value. Bag-net fishing is chief method carried on. Returns about the same as previous year. Do. do. do. Landings mainly effected by stranger crews. Increase in quantity and value. Landings mainly effected by stranger crews. Decrease in quantity and value. Do. do. do. Fisheries unimportant. Do. do. Do. do.
Creels and lines.	„	241	289	3,283	5,710	5,429	Codling and crabs.	2	
„	„	20	20	2,163	3,747	439	Haddock.	..	
Nets and lines.	Adjacent waters.	48	48	14,807	32,135	1,223	Codling and haddock.	..	
Lines.	1 to 5 miles offshore.	..	..	114	138	64	Codling.	..	Landings mainly effected by stranger crews. Increase in quantity and value. Landings mainly effected by stranger crews. Decrease in quantity and value. Do. do. do. Fisheries unimportant. Do. do. Do. do.
Nets and lines.	Adjacent waters.	49	57	222	363	..	Codling.	..	
Dredges.	„	..	..	..	..	160	Mussels.	3	
Drift and seineneis.	Firth of Forth	13,512	12,212	8,331	9,969	238	Herrings and codling.	10	
Otter trawling.	North Sea.	1 986	2,256	441,308	529,475	..	Codling, haddock, plaice.	..	Landings mainly effected by stranger crews. Increase in quantity and value. Landings mainly effected by stranger crews. Decrease in quantity and value. Do. do. do. Fisheries unimportant. Do. do. Do. do.
Bag-nets.	Upper reaches of Firth of Forth.	221	347	760	817	..	Herrings and codling.	..	
„	„	115	97	2,538	1,198	..	Sprats.	..	
„	„	1,103	449	1,324	800	..	Herrings and sprats.	..	
„	„	15	15	8	8	..	Herrings.	..	Landings mainly effected by stranger crews. Increase in quantity and value. Landings mainly effected by stranger crews. Decrease in quantity and value. Do. do. do. Fisheries unimportant. Do. do. Do. do.
Lines.	Foreshores.	1,982	2,332	..	..	..	„	1	
Nets and lines.	Firth of Forth	263	284	..	..	..	„	1	
„	„	2,943	2,553	37	77	14	„	2	
„	„	..	..	308	707	..	Haddock.	..	Landings mainly effected by stranger crews. Increase in quantity and value. Landings mainly effected by stranger crews. Decrease in quantity and value. Do. do. do. Fisheries unimportant. Do. do. Do. do.
„	„	119	123	412	595	..	Codling and Haddock.	..	
„	„	5	4	593	615	..	„	..	
„	„	..	..	..	..	..	„	..	
		22,622	21,086	476,608	536,692	10,191		19	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-Resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.					
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.										
<i>Anstruther District.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
Buckhaven - - - -	..	..	..	2	..	11	8	..	19.	40	105	8	165	..	53	..	
Methil and Leven - - -	..	..	..	..	..	..	..	..	4	4	4	2	1	..	6	..	
Largo - - - - -	..	..	..	..	..	..	5	..	8	13	22	4	10	..	26	..	
Elie and Earlsferry - - -	..	..	..	..	..	1	..	..	6	7	8	3	5	..	7	..	
St. Monans - - - - -	10	47	9	5	..	4	7	..	8	90	2,898	45	1,982	13	469	26	
Pittenweem - - - - -	12	12	4	2	..	21	7	..	1	59	1,300	12	503	4	326	10	
Anstruther and Cellardyke -	31	14	1	2	..	3	13	2	4	70	1,823	38	1,403	7	486	40	
Crail - - - - -	..	..	..	..	..	6	14	..	9	29	73	6	1	3	60	..	
Kingsbarns - - - - -	..	..	..	..	..	..	..	..	2	2	4	1	1	..	4	..	
St. Andrews - - - - -	..	..	..	1	..	10	12	..	1	24	123	10	161	2	68	..	
River Eden - - - - -	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	
Tayport - - - - -	†2	..	..	..	..	..	6	..	5	13	28	..	1	3	12	..	
Newburgh - - - - -	..	..	..	..	10	..	..	..	..	10	126	1	48	..	30	..	
Totals - - - - -	55	73	14	12	10	56	72	2	67	361	6,519	102	4,277	32	1,552	76	
<i>Montrose District.</i>																	
Dundee - - - - -	§5	..	..	..	12	..	..	..	..	17	446	1	65	2	78	..	
Broughty Ferry - - - -	..	..	1	..	6	..	13	..	6	26	187	6	35	2	52	..	
Westhaven - - - - -	..	..	..	..	..	..	..	..	6	6	6	4	5	1	6	..	
Easthaven - - - - -	..	..	..	..	..	..	..	..	4	4	7	3	5	..	8	..	

\* Drifters or Liners unless otherwise stated.  
† Persons from inland centres temporarily engaged in fishing.

‡ Mussel Dredgers.  
§ Trawlers.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets and lines.	Firth of Forth	3	3	3,776	8,381	195	Haddocks and codling.	..	A slight increase in quantity but a slight decrease in value on the previous year.	
Lines and creels.	"	..	..	134	97	60	Mackerel, codling, and plaice.	..	Of no importance as a fishing station.	
Nets and lines.	"	..	..	1,807	2,200	..	Haddocks, codling, and plaice.	..	A slight increase in quantity but decrease in value.	
"	"	..	..	123	175	2	Haddocks and codling.	..	Of no importance as a fishing station.	
"	Firth of Forth and North Sea.	6,569	6,039	1,488	2,743	..	Herring, cod, and codling.	2	A considerable decrease in quantity and value, chiefly in herring and codling.	
"	"	1,648	1,417	14,079	22,951	..	Haddocks, codling, and herring.	4	A slight increase in quantity but a considerable decrease in value.	
Nets, lines and creels.	"	15,985	11,592	1,139	2,045	461	Herring, cod, and codling.	5	A considerable increase in quantity of herrings landed, but considerable decrease in total value of all fish.	
Lines and creels.	Along the coast to 10 miles out.	116	109	2,124	2,284	3,778	Codling, haddock, crabs, and lobsters.	..	Considerable decreases in quantity and value of white fish and considerable increase in value of shell fish.	
"	Along the coast.	..	..	31	33	247	Crabs and lobsters.	..	Of no importance as a fishing station. Shell fish show a slight increase.	
Nets and lines.	St. Andrews Bay and to the Bell Rock.	60	40	3,538	5,243	990	Plaice, codling, and haddocks.	..	Considerable increases in quantity and value, chiefly of haddocks and codling. Motor engines were installed in 7 small sail boats, and 1 new motor boat was added to the fleet.	
"	River Eden.	..	..	..	..	1,026	Mussels.	..	Of no importance as a fishing station; shell fish show a slight decrease in value.	
Mussel Dredging.	Estuary of Tay.	..	..	854	43	1,557	Mussels and sprats.	..	Of no importance as a fishing station; shell fish show a considerable increase in value.	
Bag-Nets.	River Tay.	..	..	9,297	1,413	..	Sprats, sparlings, and flounders.	..	A considerable increase in quantity and value. The comparative low value is due to the preponderance of sprats, which were sold for manure.	
		24,381	19,200	33,390	47,613	8,316		11		
Trawling and Bag-Nets.	From 5 to 60 miles E. and E.S.E. from Bell Rock and Tay Estuary.	192	330	77,132	100,540	..	Haddocks, sprats, codlings, plaice, whittings, sprats, and skate.	1	Landings of local trawlers were augmented by those of a few vessels belonging to Granton and Aberdeen. Quantity and value of trawl fish show increases of 50 per cent. and 14 per cent. respectively, but there is a decrease of 18 per cent. in the quantity of sprats.	
Nets and lines.	Tay Estuary.	489	275	709	1,186	92	Herrings, plaice, and dabs.	..	Decrease of 17 per cent. in the quantity of white fish.	
Lines and creels.	Along coast.	..	..	71	41	50	Codlings and crabs.	..	Unimportant creek.	
"	"	..	..	95	99	79	Crabs and lobsters.	..	Do.	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	† Non-Resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Montrose District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Arbroath - - - -	1	8	..	22	..	16	10	..	2	59	790	10	257	3	182	..
Auchmithie - - - -	..	..	..	..	..	..	9	..	6	15	27	1	2	..	18	..
Usan - - - - -	..	..	..	..	..	..	..	1	3	4	6	2	3	..	10	..
Ferryden - - - -	..	2	..	18	..	5	..	..	17	42	317	13	514	4	150	..
Montrose - - - -	{ 4 † 20	..	..	..	..	..	..	..	6	30	1,081	14	1,742	..	262	..
Milton - - - - -	..	..	..	..	..	..	..	..	1	1	2	2	2	..	4	..
Johnshaven - - - -	..	..	..	8	..	12	11	..	8	39	195	10	110	9	60	..
Gourdon - - - - -	11	3	1	23	..	9	2	..	2	41	407	23	356	1	159	..
Totals - - - - -	31	13	2	71	18	42	45	1	61	284	4,371	51	418	22	989	..
<i>Stonehaven District.</i>																
Shieldhill - - - -	..	..	..	..	..	..	..	..	3	3	3	2	4	..	4	..
Catterline - - - -	..	..	..	..	..	..	5	..	6	11	19	2	6	..	17	..
Stonehaven - - - -	..	..	..	10	..	9	7	..	34	60	241	20	276	..	120	..
Cowie - - - - -	..	..	..	..	..	..	2	..	6	8	12	5	13	..	9	..
Skateraw - - - - -	..	..	..	..	..	1	1	..	5	7	12	4	6	..	9	..
Totals - - - - -	..	..	..	10	..	10	15	..	54	89	287	25	293	..	159	..

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.

‡ Trawlers.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets, lines and creels.	Vicinity of Bell Rock and 1 to 30 miles off shore.	66	58	21,139	43,512	809	Haddocks, codlings, plaice, crabs, and lobsters.	3	Slight decrease in the quantity of white fish, but the value shows a decrease of 21 per cent. Improvement of 40 per cent. in the value of shell fish.	
Lines and creels.	Along coast.	..	..	218	404	78	Crabs, lobsters, and haddock.	..	The landings of white fish dropped from 577 cwts. valued at £1152.	
"	"	..	..	17	36	284	Crabs and lobsters.	..	Unimportant creek.	
Nets and lines. Mussel dredging Nets and lines.	1 to 25 miles off and South Esk.	..	..	..	..	248	Whelks.	..	Fishermen land their fish at Montrose.	
	"	332	235	13,773	22,564	2,823	Haddock, codlings, plaice, whiting, catfish.	1	Steam trawlers fish from Aberdeen and Granton. A total decline of 7510 cwts. in quantity and £20,819 in value is accounted for by decreases of 67·7 per cent., 9·6 per cent. and 55·8 per cent. in quantity, and 74 per cent., 31·5 per cent. and 72 per cent. in values of trawl fish, motor line fish and sail line fish respectively.	
Lines and creels.	Along coast.	..	..	73	126	107	Crabs and lobsters.	..	Creek of no importance.	
Nets, lines and creels.	1 to 20 miles off.	122	99	2,834	6,141	815	Crabs, lobsters, plaice and cod.	1	More attention was given to seine net and cod net fishing, and there is consequently a large falling off in line fish landings. Slight improvement in value of shell fish.	
"	1 to 30 miles off.	..	..	20,196	27,982	963	Haddocks, codlings, whiting, crabs, and lobsters.	5	Decrease of 20 per cent. in quantity of white fish, due principally to landing of seine net catches at Aberdeen. The shell fish landings increased in value by 76·3 per cent. Trawler operates from Aberdeen.	
		1,201	997	136,257	202,631	6,348		11		
Lines and crab creels.	1 to 3 miles offshore.	10	10	15	20	340	Codlings and crabs.	..	Decreases in quantity and value of white fish, but slight increase in value of shell fish.	
"	1 to 6 miles offshore.	..	..	552	552	1,040	"	..	Decreases in quantity and value of white fish; also slight decrease in value of shell fish.	
Nets, lines, and crab creels.	1 to 40 miles off shore.	583	632	12,534	14,312	95	Haddocks, codlings, whittings, mackerel, herrings, and crabs.	6	Considerable decreases in quantity and value of white fish, but a slight increase in herrings.	
Line and crab creels.	1 to 5 miles offshore.	14	16	143	132	55	Codlings, haddocks, and crabs.	..	Fishermen land most of their catches at Stonehaven.	
Lines and lobster creels.	1 to 5 miles offshore.	..	..	223	289	10	Haddocks, whittings, and lobsters.	..	Slight decrease in landings of both white fish and shell fish.	
		607	658	13,467	15,305	1,540		6		

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase or or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Aberdeen District.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Downie's - - - -	..	..	..	..	..	..	3	..	1	4	11	..	7	..	10	..
Portlethen - - - -	..	..	..	..	..	..	3	..	1	4	9	7	62	..	11	..
Cove - - - - -	..	..	..	..	..	1	7	..	3	11	20	1	3	..	18	..
Aberdeen - - - -	†232 \$16 14	..	..	19	..	9	8	..	26	324	18,656	20	1,565	..	3,195	..
Totals - -	262	..	..	19	..	10	21	..	31	343	18,696	26	1,631	..	3,234	..
<i>Peterhead District.</i>																
Newburgh (Aberdeenshire) -	..	..	..	..	..	..	..	..	2	2	4	..	3	..	4	..
Collieston „ -	..	..	..	..	..	..	..	..	11	11	12	4	..	2	12	..
Whinnyfold „ -	..	..	1	..	..	..	1	..	5	7	53	3	89	1	22	..
Port Erroll „ -	2	..	..	..	..	4	2	..	15	23	110	1	12	2	60	..
Bullers o' Buchan „ -	..	..	..	..	..	..	..	..	2	2	2	1	3	1	2	..
Boddam „ -	7	4	..	..	..	2	3	..	29	45	457	14	19	6	121	..
Peterhead „ -	116 117	13	5	7	..	28	13	5	77	281	6,187	17	510	12	1,150	31
Rattray „ -	..	..	..	..	..	..	..	..	3	3	3	2	2	..	6	..
Totals - -	142	17	6	7	..	34	19	5	144	374	6,828	32	444	24	1,377	31

\* Drifters or liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.

‡ Trawlers.

§ Liners.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Small lines.	1 to 8 miles offshore.	..	..	566	580	..	Codlings, haddock, and whittings.	..	..	Decrease in quantity and value.
Small lines and creels.	1 to 8 miles offshore.	..	..	970	1,008	58	Codlings, haddock, whittings, and crabs.	..	..	Quantity similar, but increase in value. Increase in value of shell fish.
Lines and crab creels.	1 to 8 miles offshore.	28	27	837	1,094	220	"	..	..	Slight decrease in quantity and value of white fish. Large increase in value of shell fish.
Trawl, lines, nets.	North Sea in Lat. 53° to 61° N. Orkney, Shetland, North-western, Grounds, Flannan Isles, St. Kilda, Butt of Lewis, West coast of Ireland, Faroe and Iceland.	84,328	71,087	2040948	2368733	3	Cod, haddock, herrings, ling, saithe, whittings, halibut, lemon soles, plaice, meg-rims, skate, etc.	146	Herring curers 4; Timmers and Kippers 10; Haddock and Cod curers 132.	Large increases in quantity and value of herrings. White fish show considerable increase in quantity, but only slight increase in value.
		84,356	71,114	2043321	2866415	281		146		
Mussel dredging. Lines.	..	..	..	..	..	158	Mussels.	..	..	Unimportant as a fishing creek.
"	1 to 3 miles off.	..	..	312	361	..	Codlings, haddock, and flounders.	..	..	Fishermen engage in small line fishing only. Catch similar to that of last year.
"	"	..	..	117	226	..	Codlings.	..	..	Line fishing carried on for a few months. At other periods fishermen operate with drift nets from Peterhead and other ports. Little change in landings.
"	"	..	..	1,159	1,897	..	Codlings and plaice.	..	..	Decrease in quantity and value of fish landed.
"	1 to 2 miles off.	..	..	..	..	..	"	..	..	Of no importance. Fishing irregularly prosecuted.
"	1 to 3 miles off.	..	..	1,033	1,265	..	Mackerel, codlings, and haddock.	2	..	Slight increase in quantity landed but decrease in value. Operations from creek confined to lining. Fishermen work with drift nets from Peterhead and other Scottish and English herring ports.
Nets, lines, and motor trawling.	1 to 3 miles, and from 15 to 80 miles off.	367,033	285,884	23,880	33,123	5	Herrings, codlings, haddock, and plaice.	97	..	Considerable falling off in quantity, due chiefly to decrease in landings of herrings and haddock; increase in value, however, owing to higher prices ruling for herrings. Increase in quantity and value of codlings.
Lines.	1 to 2 miles off.	..	..	107	111	..	Codlings.	..	..	Creek of little importance. Practically no change in catch.
		367,033	285,884	26,608	36,983	163		99		

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers).						2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.			80 to 45 feet keel.			18 to 30 feet keel.		Under 18 feet keel.								
<i>Fraserburgh District.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
St. Combs - - - -	5	10	..	..	..	..	..	1	44	60	674	35	731	5	172	8	
Charlestown - - - -	..	..	..	..	..	..	..	..	3	3	5	1	3	..	6	..	
Inverallochy - - - -	9	5	..	..	..	..	..	1	47	62	572	22	461	7	200	8	
Cairnbulg - - - -	4	16	..	..	..	1	..	..	51	72	935	23	677	5	220	10	
Fraserburgh - - -	61	79	1	15	..	24	2	5	48	235	6,016	35	682	20	1,022	15	
Sandhaven - - - -	..	4	..	..	..	3	..	..	21	28	245	7	97	4	56	..	
Roseheartly - - - -	5	19	..	..	..	6	2	1	21	54	1,086	3	377	4	200	10	
Pennan - - - -	3	1	..	..	..	1	..	1	9	15	167	1	149	3	42	..	
Totals -	87	134	1	15	..	35	4	9	244	529	9,650	41	1,515	48	1,918	51	
<i>Banff District.</i>																	
Crovie - - - -	2	..	..	..	..	5	..	..	21	28	125	6	103	2	88	..	
Gardenstown - - - -	18	10	..	6	..	6	..	2	14	56	1,187	10	265	4	265	..	
Macduff - - - -	35	14	2	10	..	9	1	1	8	80	1,938	2	38	8	415	..	
Banff - - - -	22	2	2	..	..	..	..	..	6	32	870	14	561	3	188	..	
Whitehills - - - -	2	10	1	4	..	31	1	..	14	63	744	28	295	4	256	..	
Portsoy - - - -	6	2	2	4	..	10	1	..	9	34	508	7	317	3	142	..	
Sandend - - - -	1	3	..	..	..	3	3	..	8	18	212	16	178	1	65	..	
Totals -	86	41	7	24	..	64	6	3	80	311	5,584	83	1,807	25	1,419	..	

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
{ Nets, lines, and creels.	1 to 5 miles off.	..	..	3,733	3,141	530	Codlings and crabs.	..		Decrease in boats compared with 1914 is due to the discarding of large sailing boats, a number of resident fishermen now working on Fraserburgh boats. Compared with last year, catch of white fish is greater, but value is less. Crabs show increases in number and value.
	"	..	..	5,724	4,799	479	"	..		The above remarks as to the decrease in the number of boats apply also to these creeks. The catch shows an increase both in quantity and value compared with 1919. Hand-line fishing received more attention.
	1 to 100 miles off.	501,041	363,473	37,652	33,466	371	Herrings, cod, codlings, and haddocks.	74		Compared with the preceding year there is a considerable falling off in the quantity of herrings landed, but the value is greater. There is a large increase in the quantity of mackerel landed during the summer months. The catch of other fish is about the same in quantity, but owing to lower prices, the value is less.
	1 to 5 miles off.	..	..	139	178	221	Codlings and lobsters.	..		Falling-off in the catch. Local fishermen now land most of their catches at Fraserburgh.
	1 to 10 miles off.	..	..	3,487	5,123	214	Codlings, haddocks and whittings.	2		Decrease in catch and value. Most of the resident fishermen prosecute the fishing at other stations throughout the year.
"	"	..	..	183	203	73	Codlings, haddocks, and lobsters.	..		Slight increase in catch. The inshore fisheries receive little attention at this creek.
		501,041	363,473	50,918	46,910	1,888		76		
Nets and lines.	Moray Firth.	}	..	..	10,420	16,230	..	Haddocks, cod, and whittings.	4	A decrease in number of sail boats, mostly third class. Quantity and value of fish landed show considerable decreases.
"	"		29,629	21,287	9,801	16,310	83	Herrings, haddocks, and codlings.	7	Considerable increases in quantity and value of herrings. Other kinds show a decrease. Number of motor boats increased by 13 during the year.
Nets, lines, and crab creels.	"		..	..	44	64	..	Codlings.	..	Very little fishing carried on. Fishermen engage in herring fishing at the large centres.
Nets and lines.	"		1,246	851	14,066	23,774	510	Haddocks, cod, and plaice.	3	Decreases in quantity and value of cod and haddocks.
Nets, lines, and crab creels.	"		1,410	972	1,712	2,880	..	Herrings and haddocks.	3	Decreases in quantity and value of all kinds.
Nets and lines.	"	..	..	2,000	3,170	..	Haddocks and codlings.	1	Results similar to last year's. Three first class motor boats added to fleet.	
		32,285	23,110	38,043	62,428	593		18		

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.										
<i>Buckie District.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
Cullen - - - - -	27	7	2	..	..	1	8	..	15	60	1,439	3	373	..	351	17	
Portknockie - - - - -	49	8	4	..	..	..	9	..	24	94	2,264	2	449	..	585	29	
Findochty - - - - -	28	43	..	..	..	1	6	1	27	106	2,902	23	636	..	643	18	
Portessie - - - - -	37	19	2	..	..	1	2	1	3	65	2,218	10	177	2	487	17	
Buckie - - - - -	111 12	34	11	5	..	1	35	..	6	205	5,996	36	1,022	14	1,316	61	
Portgordon - - - - -	33	8	7	..	..	..	11	..	2	61	1,739	33	243	1	388	23	
Totals -	287	119	26	5	..	4	71	2	77	591	16,558	103	2,546	17	3,770	165	
<i>Findhorn District.</i>																	
Lossiemouth - - - - -	48	17	1	11	..	13	1	2	9	97	2,505	14	628	4	590	..	
Hopeman - - - - -	19	4	1	5	..	9	..	..	..	38	1,011	23	605	1	280	..	
Burghead - - - - -	23	..	1	2	..	10	2	1	4	43	957	14	473	1	272	..	
Findhorn - - - - -	..	..	..	..	..	..	1	..	1	2	8	1	6	..	9	..	
Nairn - - - - -	27	1	1	..	..	17	..	3	3	52	1,097	14	449	1	308	..	
Campbelltown (Inverness) -	..	..	..	..	..	6	6	..	..	12	53	1	93	1	45	..	
Inverness - - - - -	..	..	..	..	..	..	2	..	..	2	7	1	43	..	10	..	
Totals -	112	22	4	18	..	55	12	6	17	246	5,643	64	2,285	8	1,514	..	
<i>Cromarty District.</i>																	
Avoch (Ross-shire) - -	1	..	7	..	..	5	39	..	4	56	602	14	363	..	319	..	
Cromarty Invergordon Saltburn	} ..	..	..	..	..	2	..	..	25	27	55	3	7	6	136	..	

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.

‡ Trawlers.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets and lines.	Moray Firth.	139	89	865	1,075	..	Herrings, cod, and haddocks.	1	Fishermen mostly employed at the various herring fishing centres and few fish landed at creek. Landings show a decrease from last year's.	
"	"	4,994	3,270	943	1,254	..	"	2	Increases in quantity and value of fish landed, for which herrings chiefly responsible.	
"	"	5,852	3,725	947	1,354	..	"	3	Considerable falling off in quantity of herrings, but other kinds about the average.	
"	"	93,343	64,239	31,232	50,184	20	"	18	Increase in number of vessels belonging to creek of 8 steam drifters as compared with 1919. Quantity and value of fish landed, especially herrings, show an improvement.	
"	"									
"	"	..	..	3,106	4,760	56	Cod, haddocks, and flounders.	1	A marked improvement in quantity and value.	
		104,328	71,323	37,093	58,627	76		25		
Nets, lines, and creels.	Moray Firth.	15,817	10,611	17,018	25,185	186	Herrings, cod, and haddocks.	8	Five-sixths of the fishermen are wholly dependent upon the results of herring fishing prosecuted at the chief centres around the coast. Results for the year were fair.	
"	"	..	..	8,107	12,722	105	Cod and haddocks.	..	Do. do. do.	
Nets and lines.	"	1,802	1,181	7,527	11,785	..	Herrings, cod, and haddocks.	3	Do. do. do.	
Lines.	"	..	..	648	1,000	194	Haddocks, plaice, and mussels.	..	Unimportant.	
Nets and lines.	"	92	55	4,076	8,443	..	Haddocks and plaice.	..	Conditions similar to those of Lossiemouth, Hopeman and Burghhead.	
"	"	..	..	1,270	2,401	..	"	..	Fishermen employed chiefly at herring and sprat fishing in the Inverness Firth.	
"	Inverness and Beauly Firths.	46,826	13,072	3,653	1,676	80	Herrings and sprats.	3	Small herring and sprat fishing was fairly successful during first three months of the year, but a failure during last four months.	
		64,537	24,919	42,299	63,212	565		14		
Drift nets, small lines, and cod nets.	Inverness, Beauly, and Moray Firths.	..	..	338	507	..	Codlings and haddocks.	..	Increase in quantity; decrease in value.	
Drift nets, small lines, and hand lines.	Cromarty and Dingwall Firths, and 1 to 8 miles off Sutors.	295	144	3,351	4,997	111	Codlings, haddock, and plaice.	..	Decreases in quantity and value.	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Cromarty District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Hilton (Ross-shire) - -	}	..	..	..	..	6	3	..	12	21	54	6	8	5	144	..
Balintore " - -		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Shandwick " - -		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pormahomack " - -	}	..	..	..	..	4	2	..	6	12	37	1	47	3	40	..
Rockfield " - -		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inver " - -	..	..	..	..	..	..	2	..	..	2	6	1	52	2	18	..
Tain " - -	}	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tarlogie " - -		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals - -	1	..	7	..	..	17	46	..	47	118	754	23	477	16	657	..
<i>Helmsdale District.</i>																
Embo - - - -	..	..	3	..	..	3	14	..	6	26	154	1	43	9	80	..
Golspie - - - -	..	..	1	..	..	12	1	1	5	20	89	1	24	6	54	..
Brora - - - -	..	..	..	..	..	3	2	..	6	11	29	2	39	3	36	..
Portgower - - - -	..	..	..	..	..	..	1	..	..	1	2	1	5	..	4	..
Helmsdale - - - -	1	1	..	..	..	14	1	3	18	38	182	13	198	3	100	..
Dunbeath - - - -	..	1	1	..	..	3	5	..	15	25	112	8	15	7	34	..
Totals - -	1	2	5	..	..	35	24	4	50	121	568	8	329	28	308	..
<i>Lybster District.</i>																
Latheronwheel (Caithness- shire) - - - -	..	..	..	..	..	..	..	2	9	11	22	2	22	..	20	..
Forse (Caithness-shire) - -	..	..	..	..	..	..	..	1	5	6	11	2	3	..	11	..
Lybster " - -	..	..	..	..	3	1	1	1	13	19	68	2	93	3	58	..
Clyth " - -	..	..	..	..	..	..	..	..	11	11	20	1	41	..	32	..
Totals - -	..	..	..	..	3	1	1	4	38	47	121	7	153	3	121	..

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
S m a l l lines, hand lines, and lobster creels.	2 to 12 miles E. by S. off Balintore.	16	8	5,619	7,372	225	Codlings, haddocks, and plaice.	..		Decreases in quantity and value.
Lines and lobster creels.	Dornoch Firth, and 1 to 15 miles off Torbat Ness.	12	10	3,115	3,999	273	Codlings, haddocks, plaice, and lobsters.	..		Do. do. do.
S m a l l lines.	Off Inver.	..	..	5	8	..	Haddock and plaice.	..		Do. do. do.
..	..	..	..	..	..	573	Mussels.	..		Results similar to last year's.
		323	162	12,478	16,883	1,182		..		
Lines and nets.	1 to 5 miles off.	278	139	2,905	4,033	230	Haddocks and plaice.	..		Increase in quantity of fish landed, but value similar to last year's.
L i n e s, drift and cod nets.	..	350	250	3,015	4,002	50	Cod, haddock, and plaice.	1		Marked decreases in quantity and value, principally on account of the failure of the cod-net fishing.
Lines, cod nets, and creels.	..	8	5	1,745	1,675	281	Codlings and haddocks.	1		Slight increase in quantity, but considerable decrease in value.
Lines.	..	..	..	..	..	..	Codlings.	..		Fish landed here are carted to Helmsdale.
Nets, lines, and creels.	1 to 12 miles off.	835	483	6,538	9,517	1,264	Haddocks, cod, and codlings.	2		Decreases in quantity and value of white fish, but considerable increase in the value of shell-fish, the lobster fishing being very successful during the early summer.
Nets and lines.	..	617	408	1,124	2,090	83	Herrings, cod, and haddocks.	..		Quantity landed about the same as last year, but considerable decrease in value.
		2,088	1,285	15,327	21,317	1,908		4		
Nets, lines, and creels.	1 to 6 miles off.	273	139	311	376	58	Herring and cod.	..		Increases in quantity and value as compared with 1919.
Nets and lines.	1 to 3 miles off.	1,271	796	2,616	3,196	9	Herring, codling, and haddock.	2		In August the fishermen engaged successfully in inshore herring fishing in their small boats.
Nets, lines, and creels.	1 to 6 miles off.									
Nets and lines.	1 to 3 miles off.	60	40	170	135	..	Codling.	..		The fishermen are chiefly crofters, and fishing received little attention.
		1,604	975	3,097	3,757	67		2		

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.												Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-Resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.					
	45 feet keel and upwards.			30 to 45 feet keel.			18 to 30 feet keel.		Under 18 feet keel.							
	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
<i>Wick District.</i>																
Whaligoe and Sarclet (Caithness-shire)	..	..	..	..	..	..	..	..	8	8	16	..	..	..	38	..
Wick	15	31	4	1	..	17	..	4	10	82	1,663	15	1140	3	407	..
Boathaven and Slaxigoe (Caithness-shire)	..	..	..	..	..	4	..	2	6	12	33	3	16	2	27	..
Ackergill	..	..	..	..	..	7	..	..	6	13	37	4	16	3	15	..
Keiss and Nybster	..	..	..	..	..	1	..	7	4	12	30	3	52	..	34	..
Auckengil and Freswick (Caithness-shire)	..	..	..	..	..	..	..	..	18	18	36	4	8	..	34	..
Stroma	..	..	..	..	..	4	..	12	22	38	83	7	149	..	74	..
Duncansbay and Huna	..	..	..	..	..	..	..	..	14	14	28	3	8	..	32	..
Gills and Mey	..	..	..	..	..	..	..	..	12	12	24	2	36	..	20	..
Scarfskerry and Ham	..	..	..	..	..	..	..	..	12	12	24	2	2	..	20	..
Brough and Dunnet	..	..	..	..	..	..	..	1	10	11	22	2	2	..	20	..
Castlehill and Murkle	..	..	..	..	..	..	..	..	1	1	2	3	6	..	4	..
Thurso and Scrabster	..	1	..	7	..	2	..	5	6	21	127	..	47	3	63	..
Crosskirk and Brims	..	..	..	..	..	..	..	..	3	3	6	..	1	..	6	..
Sandside	..	..	..	..	..	2	..	..	1	3	10	1	2	..	8	..
Portskerra (Sutherlandshire)	..	..	..	..	..	1	..	..	10	11	24	2	2	..	40	..
Strathypoint and Armadale (Sutherlandshire)	..	..	..	..	..	..	..	..	7	7	14	..	..	..	15	..
Kirtomy and Farr	..	..	..	..	..	..	..	..	2	2	4	5	45	..	24	..
Skerryay	..	..	..	..	..	..	..	..	6	6	12	1	2	..	28	..
Scullomy	..	..	..	..	..	..	..	..	1	1	2	..	1	..	4	..

\* Drifters or Liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Lines and creels. Drift net, cod nets, and lines.	1 to 4 miles off. 1 to 7 miles off. Herring, summer, 20 to 65 miles E by N. to S. E.; winter, 4 to 25 miles off north coast.	58	36	171	243	154	Codling and crabs. Herrings and cod.	61	Fish were scarce and the general results of the fishing poor. The winter herring fishing was a great success, the landings and value being the highest on record. The summer herring fishing, under a Government Guarantee, made a promising start, which, however, was not maintained. On the first two days of the fishing the landings were heavy, but afterwards the results were disappointing for the majority of the crews engaged.
Nets, lines, and creels.	1 to 7 miles off.	..	..	438	397	82	Codling and lobsters.	2	The fishermen usually fish in motor boats and land the majority of their catches at Wick.
"	Sinclair Bay.	182	108	1,058	1,431	186	Codling, haddock, and lobsters.	..	In August and September the fishermen prosecuted with success inshore herring fishing. Average results were obtained at line fishing.
"	"	140	120	957	1,522	973	Codling, lobsters, and crabs.	..	The remarks against Ackergill also apply here. The fishermen usually landed their catches of herrings at Wick.
Lines and creels.	2 to 4 miles off.	360	204	295	105	..	Codling.	..	Considerable increases in quantity and value of fish landed.
"	1 to 4 miles off the coast of island.	22	25	766	982	770	Codling and lobster.	..	The motor boat has proved a great boon to the fishermen of this island, enabling them to fish more regularly and over a larger area.
Hand lines and creels.	Pentland Skerries, 1 to 5 miles off.	..	..	334	486	255	"	..	Unimportant fisheries.
"	"	112	86	921	971	817	Codling, lobsters, and crabs.	..	Both line and creel fishing was successfully prosecuted.
Lines.	Dunnet Bay.	..	..	110	114	5	Codling and haddock.	..	Unimportant fisheries.
Drift nets, lines, and creels.	2 to 10 miles off.	63,770	53,752	7,582	9,345	841	Herring, codling, halibut, skate, and lobsters.	6	Scrabster is a convenient landing port when the herring fleet is prosecuting the winter and early summer fishing off the North Coast. The harbour has just been provided with 12 electric lamps, which are likely to prove of great benefit.
Lines and creels.	1 to 4 miles off.	..	..	108	112	259	Lobster and crabs.	..	Increase in value of shell fish.
"	Sandside Bay.	216	152	273	180	199	Herring, codling, and lobsters.	..	The fishermen with their motor boats frequently land their catches at Thurso.
Nets, lines, and creels.	1 to 4 miles off.	245	200	738	854	..	Codling.	..	
"	"	..	..	7	13	79	Lobsters.	..	Little done at fishing from this creek. Fishermen principally employed at deep-sea herring fishing.
Lines and creels.	"	441	200	926	798	47	Haddock.	..	A considerable increase in quantity and value of herrings and other fish.

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.											Increase on or Decrease from 1914.		Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fishermen and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.						
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Wick District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Isle Roan (Sutherlandshire) .	..	..	..	..	..	..	..	..	3	3	6	3	43	..	22	..
Talmine and Portvasgo ,,	..	..	..	..	..	..	..	..	6	6	12	2	6	..	32	..
Erriboll and Rispond ,,	..	..	..	..	..	..	..	..	14	14	28	4	10	..	34	..
Totals .	15	32	4	8	..	38	..	31	182	310	2,248	30	1,440	11	1,001	..
<i>Orkney District.</i>																
North Ronaldshay - - -	..	..	..	..	..	..	..	..	8	8	10	2	2	..	18	..
Sanday - - - - -	..	..	..	..	..	..	..	..	38	38	39	20	13	5	60	..
Westray and Papa - - -	..	..	1	..	..	1	..	2	76	80	137	44	37	7	156	..
Eday and Pharay - - -	..	..	..	..	..	..	2	..	25	27	38	7	13	3	54	..
Stronsay - - - - -	..	..	2	..	..	..	..	2	12	16	121	8	235	5	40	..
Shapinshay - - - - -	..	..	..	..	..	..	..	1	16	17	18	12	11	2	39	..
Rousay, Egilsay, etc. - -	..	..	..	..	..	..	1	..	13	14	22	7	13	..	24	..
Evie and Birsay - - - -	..	..	..	..	..	..	..	3	32	35	38	25	26	4	84	..
Kirkwall - - - - -	..	1	..	..	..	5	1	2	10	19	91	4	51	1	40	..
Tankerness and Deerness -	..	..	1	..	..	..	..	..	17	18	83	10	24	2	36	..
Holm - - - - -	..	..	1	..	..	..	..	2	9	12	53	7	9	2	24	..
Burray - - - - -	..	..	5	..	..	..	1	5	17	28	266	8	294	3	62	..
Orphir to Scapa - - - -	..	..	..	..	..	..	..	2	3	5	8	6	28	..	11	..
Stromness - - - - -	..	..	..	..	..	1	..	13	14	28	52	3	11	4	66	..
Hoy and Graemsay - - -	..	..	..	..	..	..	..	6	17	23	32	6	5	3	47	..

\* Drifters or Liners unless otherwise stated.  
 † Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Nets, lines, and creels	Inshore off coasts of island.	80	60	91	46	100	Haddock and lobsters.	..	The fishermen engage in herring fishing from the large ports.
"	1 to 4 miles off.	28	40	776	382	183	"	..	
"	"	357	311	247	275	1,391	Herring, haddock, and lobster.	..	Increases in quantities and values of landings.
		537,377	393,656	22,252	24,918	6,341		69	
Creels.	Inshore.	..	..	..	..	964	Lobsters.	1	Crofter fishermen, engaging in lobster fishing during summer and autumn. An increase of 10 per cent. in quantity and value of lobsters compared with previous year.
"	"	..	..	..	..	..	"	..	
Lines and creels.	"	..	..	374	455	786	Cod and lobsters.	..	Crofter fishermen. Line and lobster fishing prosecuted throughout the year. Line fisheries less productive than in 1919; lobster fishing very successful.
"	"	..	..	143	113	610	"	..	Crofter fishermen. Line fisheries unimportant. Very successful lobster fisheries during summer and autumn.
Nets, lines, and creels.	6 to 60 miles E.S.E. to S. by E.	90,853	61,095	259	237	605	Herrings and lobsters.	17	Principal herring fishing centre in district. Herring fishery resumed after six years, but results disappointing. Fourteen curers opened stations.
Lines and creels.	Inshore	..	..	408	474	987	Cod and lobsters.	..	Crofter fishermen. Line and lobster fishing carried on throughout the year. Considerable decrease in line fisheries. Increase of 45 per cent. in value of shell fish.
"	"	..	..	..	..	..	"	..	
"	Skaill Bay and inshore.	..	..	707	1,017	518	Cod, haddocks, and lobsters.	..	Crofter fishermen. Line fisheries yielded poor results. Lobster fishing successfully prosecuted during summer and autumn.
"	Stronsay Firth and inshore.	728	583	1,977	3,412	1,214	"	4	Regular fishermen. Line fishing successfully prosecuted throughout the year. Few herrings landed, and none cured.
"	Deersound and inshore.	14	10	292	368	423	"	..	Crofter fishermen. Considerable falling off in quantity and value of line fish; slight increase in value of shell fish.
"	Inshore.	35	22	324	437	184	Haddocks and lobsters.	3	Crofter fishermen. Line fisheries yielded poorer results than in 1919. No herrings cured.
Nets and lines.	"	21	15	125	108	..	Cod and haddock.	3	Crofter fishermen. Line fisheries unimportant. Five large sailing boats were fitted out for herring fishing and fished from Stronsay.
Lines and creels.	Scapa Flow.	..	..	342	513	110	Haddock, cod, and lobsters.	..	Crofter fishermen. A decrease of 37 per cent. in value of line fish.
"	1 to 10 miles S.W.	77	68	1,275	1,354	1,319	"	1	Regular fishermen. Line and lobster fishing successfully prosecuted throughout the year.
"	Inshore.	..	..	653	664	617	"	..	Crofter fishermen. Results of line fisheries similar to previous year's; increase of 82 per cent. in value of shell fish.

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	† Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.			30 to 45 feet keel.			18 to 30 feet keel.		Under 18 feet keel.								
<i>Orkney District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
Walls - - - - -	..	..	1	..	..	1	..	..	33	35	92	16	35	6	52	..	
Flotta - - - - -	..	..	..	..	..	..	..	..	17	17	23	3	34	..	34	..	
Phara and Cara - - -	..	..	..	..	..	1	..	1	2	6	1	1	..	4	..	..	
Swona - - - - -	..	..	..	..	..	1	..	2	3	9	1	2	..	8	..	..	
South Ronaldshay - -	..	..	..	..	..	2	2	5	39	48	88	16	276	8	114	..	
Totals - - - - -	..	1	11	..	..	11	8	43	399	473	1,226	160	841	55	973	..	
<i>Shetland District.</i>																	
Fair Isle - - - - -	..	..	..	..	..	1	..	3	4	5	2	1	..	20	..	..	
Grutness - - - - -	..	1	7	..	..	..	..	19	27	363	11	47	1	62	..	..	
Quendale - - - - -	..	..	6	..	..	..	..	6	12	282	..	16	2	47	..	..	
Boddam - - - - -	..	..	..	..	..	1	..	9	10	17	5	4	1	38	..	..	
Spiggie - - - - -	..	..	1	..	..	..	..	3	4	38	1	2	1	35	..	..	
Levenwick - - - - -	..	..	3	..	..	..	..	1	4	111	7	172	..	48	..	..	
Hoswick - - - - -	2	5	10	..	..	..	..	6	23	732	1	16	1	133	..	..	
Sandsair - - - - -	..	..	3	..	..	..	..	..	3	112	7	32	..	45	..	..	
Aithsroe - - - - -	..	..	3	..	..	1	..	2	6	165	5	36	3	48	..	..	
Bressay - - - - -	..	..	..	..	..	..	..	7	7	7	7	7	2	28	..	..	
Lerwick - - - - -	8	7	17	7	1	6	6	..	24	76	1,329	1	47	11	413	..	
Nesting - - - - -	..	1	..	..	1	..	..	2	4	44	1	10	1	16	..	..	
Whalsay - - - - -	1	1	14	3	2	1	..	12	34	801	7	7	2	134	10	..	
Skerries - - - - -	..	1	2	1	..	4	..	2	10	154	1	109	2	25	..	..	

\* Drifters or liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Lines and creels.	Pentland Firth and inshore.	..	..	464	590	370	Cod and lobsters.	..	Crofter fishermen. Decrease of 52 per cent. in quantity and 70 per cent. in value of line fish landed.
"	"	..	..	..	..	..	"	..	Fisheries unimportant.
"	Inshore.	..	..	..	..	..	"	..	Do.
"	"	..	..	317	452	1,383	"	..	Crofter fishermen. Line fisheries unremunerative. Great increase in value of shell fish.
		91,723	61,793	7,660	10,294	10,090		29	
Lines. Nets and lines.	Inshore. 1 to 60 miles off.	..	..	790	450	..	Cod, ling, tusk, saithe, haddocks, halibut, and skate.	(1)	Decrease of 876 cwts. and £1234 in value compared with 1919 results. Long fish were scarcer than usual on the grounds during the season when great line fishing is carried on.
"	"	..	..	..	..	..	"	..	Majority of the fishermen employed at herring fishing at Lerwick.
"	"	..	..	..	..	..	"	..	"
"	"	..	..	..	..	..	"	..	"
"	"	10,755	6,920	996	784	..	Herrings, cod, ling, saithe and haddocks.	(1) (3)	Two curing stations were open at Hoswick and one at Levenwick, and more of the district boats landed their catches of herrings at the home port than in 1919. This accounts for increases of 7838 cwts. and £6397, the increases on herrings alone being 7069 cwts. and £5357.
"	"	..	..	74	45	..	Saithe and haddocks.	(1) (3)	Crofting district. Very little fishing carried on in 1920 from the locality, but fishermen took part in the summer herring fishing at Lerwick.
"	Inshore. 1 to 70 miles off.	296716	218,019	17,082	14,253	235	Herrings, mackerel, cod, ling, tusk, saithe, haddocks, whittings, halibut, and skate.	(9) (41)	Decrease of 193,393 cwts. in quantity landed, but increase of £12,366 in value. Herrings alone show decrease of 194,631 cwts., but increase of £26,392 in value. White fish show decreases of 3789 cwts. and £13,970. The high price paid for herrings under the Government Guarantee Scheme accounts for increase in value over 1919, when a large part of the catch was sold at a low figure. There was a considerable drop in the prices realised for all kinds of white fish compared with 1919.
Nets and lines.	1 to 60 miles off.	832	556	2,224	2,293	..	Herrings, haddocks, and halibut.	(1) (2)	As showing the drop in the value of haddocks compared with 1919, an increase of 422 cwts. at Whalsay and Skerries shows a decrease of £1564 in the value realised by the fishermen. The herring curing station at Whalsay was not opened till late in the summer season, which accounts for the catch of herrings being 7827 cwts. less than the 1919 landings. The total decrease in value in this section is £3597.
"	"	..	..	..	..	..	"	..	"
"	"	..	..	..	..	..	"	..	"

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.					
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.										
<i>Shetland District.—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
Vidlin	..	..	..	..	..	..	..	3	3	3	3	2	26	..	12	..	
West Sandwick	..	..	..	..	..	..	..	3	3	3	3	3	3	..	12	..	
Burravoe	..	..	..	..	..	..	..	3	3	3	1	58	..	10	..	..	
Gossaburgh	..	..	..	..	..	..	..	2	2	2	1	1	..	..	6	..	
Mid Yell	..	..	..	..	..	..	..	10	10	16	2	67	3	31	..	..	
Cullivoe and Gutcher	..	..	..	..	..	..	..	1	10	11	12	3	73	4	44	..	
Fetlar	..	..	..	..	..	..	..	3	3	3	..	..	..	..	9	..	
Westing and Snaravoe	..	..	..	..	..	..	..	6	6	6	1	1	1	1	18	..	
Uyasound	..	..	..	..	..	..	..	6	6	6	2	2	2	2	19	..	
Muness and Colvidale	..	..	..	..	..	..	..	3	3	3	..	..	..	..	9	..	
Baltasound	..	1	5	..	..	1	..	4	11	290	1	36	7	36	..	..	
Haroldswick	..	..	..	..	..	..	..	9	9	9	2	2	2	2	25	..	
Norwick	..	..	..	..	..	..	..	3	3	3	3	3	3	..	18	..	
Burrafrith	..	..	..	..	..	..	..	4	4	4	1	1	1	1	15	..	
Mossbank and Dalesvøe	..	..	..	..	..	1	..	4	5	10	3	2	1	20	..	..	
Ollaberry	..	..	..	..	..	..	..	14	14	14	9	9	6	24	..	..	
North Roe	..	..	..	..	..	1	..	7	8	11	3	6	3	22	..	..	
Fethaland and Sandvøe	..	..	..	..	..	..	..	4	4	4	..	..	..	..	16	..	
Ronasvøe	..	..	..	..	..	1	..	6	7	8	3	3	3	14	..	..	
Stennis	..	..	..	..	..	..	..	8	8	8	1	1	2	32	..	..	
Hillswick and Brae	..	..	..	..	1	..	..	31	32	33	20	12	8	49	..	..	
Voe and Papa	..	..	..	..	..	..	..	24	24	25	6	7	12	58	..	..	
Sandness	..	..	..	..	..	..	..	16	16	16	6	6	4	36	..	..	
Foula	..	..	..	..	1	..	..	16	17	20	7	10	4	39	..	..	
Vaila Sound	..	..	1	..	..	..	..	10	11	43	..	..	1	45	..	..	
Sand	..	..	..	..	..	..	..	4	4	4	1	1	..	23	..	..	
Skeld and Reawick	..	..	..	..	..	..	..	6	6	6	..	..	..	26	..	..	
Whiteness and Burwick	..	..	4	..	..	..	..	8	12	181	2	7	4	54	..	..	
Scalloway	1	4	1	7	..	3	1	..	6	23	358	..	20	4	75	..	
Burra Isle	..	6	11	3	..	6	..	..	12	38	757	15	242	6	105	..	
Oxna and Linga	..	..	2	..	..	..	..	..	5	7	83	1	32	1	20	..	
Trondra	..	..	..	..	..	..	..	..	5	5	9	3	69	..	23	..	
South Havera	..	..	..	..	..	..	..	2	2	2	..	..	..	6	..	..	
Totals	12	27	90	21	1	21	18	1	353	544	6,055	2	681	106	2,043	10	
<i>Stornoway District.</i>																	
SOUTH LOCHS SECTION.																	
Gravir, Colbost, Marvaig, Cromore, Garryvard to Keose	..	..	3	..	5	4	21	..	24	57	393	5	143	4	367	..	
NORTH LOCHS SECTION.																	
Luerbost, Crossbost, Ranish, Grimshader	..	..	7	..	2	..	7	..	12	28	344	16	187	1	290	..	
STORNOWAY SECTION.																	
Stornoway, Sandwick, Holm, Melbost and Stenish	18	3	1	..	1	2	..	..	5	30	1,483	9	701	3	227	..	

\* Drifters or liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.	
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.					
		Cwts.	£	Cwts.	£	£					
Lines.	Inshore.	{	..	521	364	..	Haddocks and saithe.	{	..	The men of this section are devoting more time to crofting than to fishing, and so long as the crofts provide a livelihood this will continue.	
"	"										
"	"										
"	"										
"	"										
"	"	{	..	80	48	..	Haddocks and saithe.	{	..	Do. do. do.	
"	"										
"	"										
"	"										
"	"										
Nets and lines.	1 to 60 miles off.	{	..	200	191	..	Herrings, saithe, haddocks, whittings, and halibut.	{	12	There was no herring fishing prosecuted from Baltasound. The Unst crofter fishermen now devote practically all their time and attention to their crofts, which are bringing in a good revenue. Many also are working in the chromate quarries.	
Lines.	Inshore.										
"	"										
Lines.	Inshore.	{	..	824	446	..	Saithe and haddocks.	{	..	The catch of fish in this section, though double that of the preceding year, is not of much importance in the aggregate. Crofting work is the chief interest meantime.	
"	"										
"	"										
"	"	{	..	295	405	..	Saithe, haddocks and halibut.	{	1	Decreases of 520 cwts. and £1202.	
Nets and lines.	1 to 20 miles off.										
"	"										
Lines.	Inshore.	{	..	491	302	..	Cod saithe and haddocks.	{	1	Small increases in quantity and value. Many men engaged at herring fishing at Lerwick during summer.	
Nets and lines.	1 to 40 miles off.										
Lines.	1 to 10 miles off.										
Nets and lines.	1 to 60 miles off.	{	2,412	1,634	8,417	8,097	200	Haddocks, herrings, cod, halibut and skate.	{	8	The Scalloway landings show decreases of 5321 cwts. and £18,765 as compared with 1919. The largest decreases are in haddocks, accounting for 4388 cwts. and £18,682. The herring fishing season at Scalloway was of short duration, owing to strike of fishermen in June. All the local steam, motor and sail boats fished for herrings at Lerwick during the summer season.
"	"										
"	"										
"	"										
Lines.	Inshore.										
"	"										
		310,715	227,129	31,994	27,678	495		81			
Nets and lines.	The Minch and Sea Lochs.	..	..	1,595	712	..	Cod, ling, haddocks, and eels.	..		Fishing results similar to those of last year.	
"	"	730	317	1,223	1,076	168	Haddocks, herrings, cod, and lobsters.	..		Do. do. do.	
"	The Minch.	251,753	171,974	10,028	6,863	236	Herrings, mackerel, cod, ling, and saithe.	40		The winter herring catch was less than half of that of the previous year, but the summer fishing was the best for many years.	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.												Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	†Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.						
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Stornoway District—contd.</i>	*Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
GARRABOST SECTION. Swordale and Knock, Bayhle, Garrabost	..	..	9	..	6	..	2	..	12	29	443	3	128	1	387	..
PORTNAGURAN SECTION. Sheshader, Portvoller, Port- naguran, Shader	..	..	5	1	1	..	10	..	9	26	303	12	160	1	269	..
BACK SECTION. Long, Coll, Vatisker, Back, Tolsta	..	..	..	..	..	..	5	..	14	19	63	11	151	..	510	..
NESS SECTION. Skegersta, Port of Ness, Borve, Shader—West	..	..	..	..	..	..	13	..	20	33	144	2	12	2	538	..
SHAWBOST SECTION. Barvas, Brue, Arnol, Bragar, Shawbost	..	..	..	..	..	..	4	..	14	18	54	1	8	..	300	..
CARLOWAY SECTION. Carloway, Tolstachuilish, Breasclete, Callanish	..	..	..	..	4	..	8	..	2	14	133	4	26	1	266	..
BERNERA SECTION. Tobson, Valsay, Breasclete and Hacklet, Kirkibost	..	..	..	..	1	..	10	..	25	36	155	1	42	2	151	..
VALTOS SECTION. Uigan and Arduig, Croulista, Islivaig, Breanish, etc., Loch Hamnevy	..	..	..	..	1	..	..	..	1	2	13	8	36	..	124	..
NORTH HARRIS SECTION. Scadabay, Plockropool, Drin- nishader, Meavig, Derric- late, Tarransay Island, Scarp Island, Ardashig, Tarbert and Urgha, Kyles of Scalpay, Molliganish, Rennigedle, Marig and Ardvourlie	..	..	..	..	4	..	20	..	24	48	147	15	99	4	254	..
SCALPAY SECTION. Scalpay and Scotasay Islands	..	..	..	7	3	1	27	..	14	52	267	3	13	4	135	..
SOUTH HARRIS SECTION. Stroud, Finsbay, Cudinish, Flodabay, Manish, Geo- crab and Licisto, Stockin- ish and Lachlee	..	..	1	..	3	..	33	..	26	63	231	9	70	5	204	..
Totals	18	3	26	8	31	7	160	..	202	455	4,173	89	374	28	4,022	..
<i>Barra District.</i>																
Boreray	..	..	..	..	..	..	1	..	..	1	2	5	16	..	4	..
Berneria	..	..	..	..	..	..	16	..	2	18	63	4	9	3	72	..
Hougharry and Locheport	..	..	..	..	..	..	1	..	3	4	7	8	31	..	12	..
Grimsay	..	..	..	..	..	..	19	..	7	26	63	2	31	2	87	..
Heisker	..	..	..	..	..	..	4	..	..	4	9	2	11	..	12	..
Benbecula	..	..	..	..	..	..	1	..	18	19	32	4	28	..	60	..

\* Drifters or liners unless otherwise stated.

† Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets, lines, and creels.	Broadbay.	771	370	3,604	2,866	862	Herrings, cod, ling, haddocks, and lobsters.	1	Considerable decrease in value of fish landed.	
"	"	460	301	3,318	1,888	270	Haddocks, cod, and lobsters.	..	More attention paid to lobster fishing.	
Nets and lines.	"	140	40	4,572	4,889	..	Haddocks.	..	Small line fishing occasionally engaged in for home requirements.	
"	The Minch and off the Butt.	3,439	1,942	1,988	2,539	..	Herrings, cod, and ling.	..	Cod and ling fishing on the decline. Increase in quantity and value of herrings landed.	
"	Atlantic side of the island.	..	..	1,302	1,167	..	Cod and saithe.	..	Only great line fish landed.	
Nets and lines.	Loch Roag.	100	50	656	510	..	Cod and haddocks.	..	Very little fishing carried on at these creeks.	
Nets, lines, and creels.	"	1,080	390	288	209	784	Herrings and lobsters.	1	Increased landings of herrings and lobsters, but cod and ling fishing on the decline.	
Nets and lines.	"	980	702	299	166	..	Herrings and haddocks.	..	Unimportant as fishing creeks.	
Nets and creels.	The Minch and Sea Lochs.	2,808	1,350	718	970	863	Herrings and lobsters.	..	Considerable increase in landings of herrings, which were all used for local consumption.	
"	"	8,370	4,593	1,716	334	1,595	"	4	Quantity of herrings landed almost double that of last year, but decrease in number and value of lobsters.	
"	"	1,420	692	3,400	1,297	913	"	..	Decrease in number and value of lobsters.	
		272,001	182,721	34,657	25,486	5,691		46		
Lines and creels.	Off shore.	..	..	1,130	685	1,724	Plaice, flounders, and lobsters.	..	Decrease in quantity and value of white fish landed of 29 per cent. and 40 per cent. respectively. Decrease in value of lobsters of 35 per cent.	
Nets, lines, and creels.	"	194	40	506	422	2,208	Cod, saithe, flounders, and lobsters.	..	No landings except of lobsters in 1919. Increase in value of lobsters of £60.	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	*Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.							
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.										
Barra District—contd.	Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.	
Loch Carnan - - - -	..	..	..	..	..	..	15	..	22	37	88	5	40	4	119	..	
Loch Skipport - - - -	..	..	..	1	..	..	6	..	7	14	48	2	1	2	53	..	
Loch Boisdale - - - -	..	..	..	..	..	3	9	..	32	44	128	4	74	4	142	..	
Eriskay - - - - -	..	..	..	6	1	3	16	..	14	40	248	5	155	..	157	..	
Bruernish - - - - -	..	..	..	3	..	..	6	..	7	16	90	10	162	2	64	..	
Ault and Karsary - - -	..	..	..	..	..	..	1	..	12	13	23	2	57	1	39	..	
Brevig and Skallary - -	..	1	..	..	..	1	2	..	9	13	71	4	21	1	48	..	
Castlebay - - - - -	..	..	..	10	2	2	4	..	14	32	332	..	14	5	149	..	
Totals - - - - -	..	1	..	20	3	9	101	..	147	281	1,204	33	602	24	1,018	..	
Loch Broom District.																	
CAPE WRATH TO LAXFORD.																	
Poulin - - - - -	..	..	..	..	..	..	..	..	4	4	9	1	1	..	12	..	
Oldshoremore and Oldshorebeg	..	..	..	..	..	..	..	..	12	12	30	1	3	..	20	..	
Kinlochbervie - - - -	..	..	..	..	..	..	1	..	8	9	18	3	3	..	24	..	
Badcall and Achriskill - -	..	..	..	..	..	1	..	..	8	9	22	..	5	..	27	..	
Ardmore - - - - -	..	..	..	..	..	..	..	..	5	5	12	1	1	..	15	..	
Totals - - - - -	..	..	..	..	..	1	1	..	37	39	91	4	7	7	98	..	
LAXFORD TO BADCALL.																	
Findlemore and Fanagmore -	..	..	..	..	..	..	..	..	6	6	9	..	1	..	11	..	
Tarbert and Scourie - - -	..	..	..	..	..	..	..	..	9	9	18	..	..	..	13	..	
Badcall - - - - -	..	..	..	..	..	..	..	..	6	6	10	..	2	..	11	..	
Totals - - - - -	..	..	..	..	..	..	..	..	21	21	37	..	1	6	40	..	
BADCALL TO DRUMBEG.																	
Unapool and Glendhu - - -	..	..	..	..	..	..	..	..	2	2	3	2	4	..	6	..	
Ardvaar and Nedd - - - -	..	..	..	..	..	..	1	..	5	6	12	1	1	..	14	..	
Totals - - - - -	..	..	..	..	..	..	1	..	7	8	15	1	3	..	20	..	
DRUMBEG TO CULKEIN.																	
Drumbeg - - - - -	..	..	..	..	..	..	1	..	1	2	6	..	..	..	8	..	
Culkein (Drumbeg) - - -	..	..	..	..	..	..	1	..	8	9	22	1	1	..	20	..	
Clashnessie - - - - -	..	..	..	..	..	..	1	..	2	3	9	..	34	..	10	..	
Achnacarion - - - - -	..	..	..	..	..	..	..	..	1	1	3	1	3	..	2	..	
Totals - - - - -	..	..	..	..	..	..	3	..	12	15	40	2	30	4	40	..	

\* Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets, lines, and creels.	Off shore.	274	122	175	50	700	Herrings, mackerel, and lobsters.	..	..	Large decrease in quantity and value of white fish landed. Increase in value of lobsters of 80 per cent.
"	"	..	..	..	..	135	Lobsters.	..	..	Increase in value of lobsters of £88.
"	Off shore and Minch.	1,527	529	19	14	1,066	Herrings and lobsters.	3	..	Decrease in landings of herrings of 3194 cwts. and £1689. Increase in value of lobsters of £688.
"	"	..	..	490	435	..	Ling, plaice, and flounders.	1	..	Decrease in landings of 48 per cent. in quantity and 47 per cent. in value—principally in ling. Boats fish from other creeks.
}	Minch.	39,168	28,538	2,582	1,292	1,216	{Herrings, mackerel, cod, ling, saithe, haddocks, plaice, flounders, roker, and lobsters.	13	..	Increase in landings of herrings of 19,333 cwts. and £18,137, and of other fish—mackerel, haddocks, saithe and plaice—of 1768 cwts. and £820. Increase in value of lobsters of £347.
		41,163	29,238	4,902	2,898	7,049		17		
Nets, lines, and lobster creels.	Minch, and Lochs Clash and Inchard.	..	..	..	..	..	Herrings, cod, haddocks, and lobsters.	..	..	An increase on previous year, owing to heavier landings of herrings during early winter season. The one curing firm did not operate.
		2,351	515	428	414	412		1		
}	Minch, and Lochs Laxford and Cairnbawn.	..	..	..	..	..	"	..	..	A marked decrease of both herrings and lobsters.
		35	12	139	120	644		..		
}	Lochs Glendhu and Cairnbawn.	..	..	..	..	..	"	..	..	Herring shoals did not enter Glendhu and Cairnbawn during the fall, which accounts for a large decrease in herrings. The lobster catch, however, increased by 8283 fish.
		3,122	1,326	786	461	1,164		..		
}	Minch and Cairnbawn.	..	..	..	..	..	Cod, haddocks, and lobsters.	..	..	A section of small account.
		..	..	170	172	195		..		

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	*Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.					
	45 feet keel and upwards.		30 to 45 feet keel.		Sail	18 to 30 feet keel.		Under 18 feet keel.									
	Steam	Motor	Sail	Motor		Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Loch Broom District—contd.																	
CULKEIN TO INVERPOLLY.																	
Culkein (Stoer) - - -	..	..	..	..	..	..	..	..	6	6	9	4	5	..	14	..	
Baffan and Balnacledich - -	..	..	..	..	..	..	1	..	9	10	21	2	2	..	26	..	
Clachtoll - - -	..	..	..	..	..	..	..	..	13	13	24	13	24	..	32	..	
Achmelvich - - -	..	..	..	..	..	..	..	..	11	11	14	7	35	..	26	..	
Lochinver and Strathan - -	..	..	..	..	..	2	..	..	10	12	30	3	29	..	34	..	
Badnaban and Inverkirkraig -	..	..	..	..	..	..	..	..	7	7	14	3	5	..	16	..	
Totals - - -	..	..	..	..	..	2	1	..	56	59	112	32	28	8	143	..	
COIGACH AND TANERA.																	
Achnahaird and Reif - - -	..	..	..	..	..	..	1	..	6	7	13	1	1	..	18	..	
Altandhu - - -	..	..	..	..	..	..	4	..	4	8	22	..	32	..	24	..	
Polbain and Tanera - - -	..	..	..	..	..	..	9	..	10	19	61	6	28	..	47	..	
Achiltibuie and Badnascally -	..	..	..	..	..	..	..	..	2	2	5	1	4	..	5	..	
Polglass and Culnacraig - -	..	..	..	..	..	..	3	..	7	10	32	1	9	..	26	..	
Totals - - -	..	..	..	..	..	..	17	..	29	46	133	5	74	9	120	..	
LOCH BROOM AND ISLEMARTIN.																	
Islemartin and Ardmair - - -	..	..	..	..	..	..	..	..	5	5	10	2	13	..	10	..	
Rhue and Morefield - - -	..	..	..	..	..	..	..	..	4	4	8	..	2	..	10	..	
Ullapool - - -	..	..	..	..	..	1	1	..	26	28	34	13	29	..	36	..	
Rheroy, Ardendrean, Letters and Loggie, etc. - - -	..	..	..	..	..	2	4	..	25	31	90	4	47	..	62	..	
Totals - - -	..	..	..	..	..	3	5	..	60	68	140	15	91	20	118	..	
ACHMORE AND LITTLE LOCH BROOM.																	
Achmore and Scorraig - - -	..	..	..	..	..	..	1	..	3	4	10	9	18	..	14	..	
Charnock and Badralloch - -	..	..	..	..	..	..	..	..	3	3	5	4	8	..	10	..	
Ardessie and Badcall - - -	..	..	..	..	..	..	1	..	2	3	9	3	16	..	18	..	
Durnamuck and Badlurach - -	..	..	..	..	..	..	2	..	9	11	27	5	9	..	21	..	
Totals - - -	..	..	..	..	..	..	4	..	17	21	51	11	33	4	63	..	
GRINUARD TO AULTBEA.																	
First and Second Coast - - -	..	..	..	..	..	..	..	..	3	3	5	2	2	..	6	..	
Sand and Laid - - -	..	..	..	..	..	..	2	..	5	7	18	..	1	..	24	..	
Achgarve and Udrigle - - -	..	..	..	..	..	..	1	..	3	4	14	..	3	..	12	..	
Opinin and Mellon Charles -	..	..	..	..	..	..	2	..	7	9	26	1	2	..	48	..	
Ormscaig and Balnaluib - -	..	..	..	1	..	..	1	..	9	11	29	3	4	..	21	..	
Tenefin and Aultbea - - -	..	..	..	..	..	1	2	..	3	6	30	1	1	..	12	..	
Totals - - -	..	..	..	1	..	1	8	..	30	40	122	7	11	9	123	..	
AULTBEA TO MELVAIG.																	
Poolwe and Naast - - -	..	..	..	..	..	1	2	..	7	10	22	8	19	..	15	..	
Inverasdale - - -	..	..	..	..	..	1	..	..	11	12	21	5	13	..	30	..	
Cove - - -	..	..	..	..	..	1	..	..	7	8	25	2	22	..	22	..	
Totals - - -	..	..	..	..	..	3	2	..	25	30	68	11	10	7	67	..	
MELVAIG TO FLOWERDALE.																	
Melvaig - - -	..	..	..	..	..	..	..	..	9	9	16	7	14	..	20	..	
North Erradale - - -	..	..	..	..	..	..	..	..	1	1	1	..	5	..	2	..	
Sand - - -	..	..	..	..	..	1	3	..	2	6	20	1	7	..	20	..	
Strath - - -	..	..	..	..	..	1	2	..	3	3	24	2	4	..	23	..	
Charlestown - - -	..	..	..	..	..	..	..	..	1	1	2	1	3	..	3	..	
Totals - - -	..	..	..	..	..	2	5	..	13	20	63	3	5	4	68	..	

\* Persons from inland centres temporarily engaged in fishing.



No I.I.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Nets, lines, and lobster creels.	Minch, Lochinver, and Enard Bay.	..	..	..	..	..	Cod and lobster.	..	Little change from last year.
		..	..	..	..	..	..	2	
		..	..	466	442	480	..	2	
"	Minch and Summer Isles Grounds.	..	..	..	..	..	Herring, haddock, and lobster.	..	A lobster district with practically the same landings as in 1919. The scarcity of herrings accounted for a decrease in white fish.
		..	..	..	..	..	..	..	
		161	72	508	465	1,622	..	..	
"	Minch and Loch Broom.	..	..	..	..	..	Herring, cod, and haddock.	..	A section that has practically lost all traces of its former importance. The bulk of the good class craft has been sold mostly to railhead districts.
		..	..	..	..	..	..	1	
		492	205	1,138	1,072	50	..	1	
"	Grinuard Bay and Little Loch Broom.	..	..	..	..	..	Lobster and cod.	..	An unimportant section.
		..	..	..	..	..	..	..	
		8	3	45	38	231	..	..	
"	Minch, Loch Ewe and Grinuard Bay.	..	..	..	..	..	Herring, haddock, and lobster.	..	Herrings and lobsters account for a slight increase.
		..	..	..	..	..	..	..	
		275	151	141	148	344	..	..	
"	Minch and Loch Ewe.	..	..	..	..	..	Cod and haddock.	..	Little change from last year. Fishermen prosecute the cod fishing at Badachro.
		..	..	..	..	..	..	..	
		131	64	776	756	6	..	..	
"	Minch and Gairloch.	..	..	..	..	..	Cod, haddock, and lobster.	..	A slight increase is to be noted. Fishermen usually land their catches at Badachro.
		..	..	..	..	..	..	..	
		..	..	224	308	140	..	..	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Increase on or Decrease from 1914.	Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	*Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.								
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.											
<i>Loch Broom District—continued.</i>	Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.		
FLOWERDALE TO SOUTH POINT OF GAIRLOCH.																		
Badachro - - - -	..	..	..	..	..	6	3	..	3	12	55	10	92	..	30	..		
Port Henderson - - -	..	..	..	..	..	4	1	..	..	5	34	..	1	..	35	..		
South Erradale - - -	..	..	..	2	..	..	..	..	..	2	27	..	9	..	10	..		
Red Point - - - -	..	..	..	..	..	..	..	..	..	..	..	2	9	..	5	..		
Totals - - - -	..	..	..	2	..	10	4	..	3	19	116	12	93	3	80	..		
Totals for District - -	..	..	..	3	..	22	51	..	310	386	988	45	330	81	985	..		
<i>Loch Carron and Skye District.</i>																		
Loch Torridon - - - -	..	..	..	2	..	5	4	..	6	17	94	2	40	2	52	..		
Applecross - - - -	..	..	..	..	..	7	..	..	5	12	85	..	9	3	37	..		
Kishorn - - - -	..	..	..	..	..	5	..	..	5	43	43	3	6	1	20	..		
Loch Carron - - - -	..	..	..	2	..	7	4	..	4	17	115	13	55	3	60	..		
Loch Alsh - - - -	..	1	..	1	..	1	..	1	..	4	72	4	72	..	16	..		
Loch Hourn - - - -	..	..	..	..	..	..	..	..	12	12	17	3	8	..	20	..		
Sleat - - - -	..	..	..	1	..	..	10	..	10	21	78	11	37	8	49	..		
Kyleakin - - - -	..	..	..	1	..	6	..	1	..	8	51	1	43	..	21	..		
Broadford - - - -	..	..	..	..	..	3	..	..	10	13	44	4	10	4	25	..		
Scalpa Sound - - - -	..	..	..	..	..	1	..	..	30	31	59	1	4	5	42	..		
Sconcer and Braes - - -	..	..	..	..	..	1	..	..	29	30	59	3	2	9	45	..		
Portree - - - -	..	..	..	2	..	2	3	2	38	47	120	14	4	3	83	..		
Staffin - - - -	..	..	..	1	..	2	17	..	5	25	59	12	24	3	62	..		
Snizort - - - -	..	..	..	1	..	14	16	..	10	41	198	3	18	3	139	..		
Waternish - - - -	..	..	..	..	1	3	10	..	3	17	70	11	93	4	50	..		
Dunvegan - - - -	..	..	..	3	..	2	16	..	13	34	118	4	14	4	72	..		
Glendale and Bracadale -	..	..	..	..	..	2	16	1	19	38	74	16	27	4	85	..		
Strathaird - - - -	..	..	..	..	..	..	1	..	13	14	27	2	8	5	24	..		
Lochs Slapin and Eyshort -	..	..	..	..	..	..	..	..	10	10	16	2	9	2	28	..		
Isle of Soay - - - -	..	..	..	..	..	1	..	..	7	8	11	4	5	1	13	..		
Totals - - - -	..	1	..	14	1	62	97	5	224	404	1,410	7	80	64	943	..		

\* Persons from inland centres temporarily engaged in fishing.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Currying Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Nets, lines, and lobster creels.	Minch and Gairloch.	..	..	..	..	..	Cod, herring, and lobster.	..	Another disappointing year caused by the scarcity of herrings, and by bad markets during the cod-net season.
		698	266	4,801	2,697	148		4	
		7,273	2,614	9,622	7,093	5,436		8	
Nets, lines, and creels.	Loch Terridon.	345	173	233	322	107	Herrings, cod, saithe.	..	Increase in quantities and values of herrings and saithe.
		205	117	245	249	..		..	
		54	29	1,419	1,283	98		..	
		66,689	52,573	8,768	8,568	65		4	
Nets, lines, and creels.	Loch Hourn.	7	6	37	24	90	Saithe and shell.	..	Slight increase in white fish, but lighter landings of shell fish.
		230	117	314	284	589		..	
Nets, lines, and creels.	Between Skye and mainland.	1,057	479	324	253	853	Herrings, had-docks, shell.	..	General increase in quantities, but values much less, except in shell fish, where an improvement is noticeable.
		230	153	169	78	169		2	
Nets, lines, and creels.	Between Skye and mainland.	762	407	1,880	1,165	2,584	Lobsters, mac-kernel, herrings.	..	Better landings of mackerel, cod and ling, and in shell fish. Improvement in total quantity and value.
		2,554	807	54	54	850		3	
Nets, lines, and creels.	Loch Snizort.	2,936	1,620	15	14	1,786	Herrings, lobsters.	1	Falling off in landings, especially as regards herrings. Values much lower. Landings of shell fish slightly better.
		3,447	1,181	98	108	360		3	
Nets, lines, and creels.	Lochs Pool-tiel and Bracadale.	1,887	543	240	245	287	Herrings, cod, lobsters.	2	Quantity and value of herrings considerably lower; also decrease in lobsters.
		..	..	..	..	642		2	
Nets, lines, and creels.	Loch Slapin and Eyshort.	1,887	543	240	245	287	Herrings, cod, lobsters.	..	Improvement in herrings and haddocks, but a falling off in shell fish.
		..	..	..	..	642		..	
Nets, lines, and creels.	Inshore.	80,403	58,215	13,796	12,647	8,480	Herrings, cod, lobsters.	15	General improvement and a large increase in herrings. Decrease in shell fish however.
		..	..	..	..	..		..	
Nets, lines, and creels.	Inshore.	80,403	58,215	13,796	12,647	8,480	Herrings, cod, lobsters.	15	Decrease in lobsters. No crabs landed.
		..	..	..	..	..		..	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	* Non-resident Fisher- men and Boys.	
	1st Class. (Including Steam Trawlers.)						2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		Sail	18 to 30 feet keel.		Under 18 feet keel.									
<i>Fort William District.</i>	Steam	Motor	Sail	Motor		Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Loch Nevis and North Morar	..	..	..	..	..	1	..	..	2	3	6	8	26	..	11	..	
Mallaig and South Morar	..	..	..	2	..	3	2	..	2	9	55	13	70	..	40	..	
Arisaig and Loch Aylort	..	..	..	..	..	..	1	..	2	3	7	3	14	..	12	..	
Sunisbury to Ockle Point	..	..	..	..	..	1	2	..	4	7	20	4	22	1	22	..	
Ockle Point to Loch Sunart	..	..	..	..	..	..	1	..	5	6	11	2	3	..	16	..	
Loch Sunart and Aline	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Loch Eil and Fort William	..	..	..	..	..	2	..	..	22	24	34	3	1	3	36	..	
North and South Corran	..	..	..	..	..	..	..	..	1	1	2	2	3	..	5	..	
Loch Leven and Kentallen	..	..	..	..	..	..	..	1	1	2	4	2	46	..	7	..	
Cuil, Appin and Creran	..	..	..	..	..	1	1	..	1	3	12	..	5	..	9	..	
Loch Etive and Oban	..	1	..	1	..	3	5	..	8	18	92	5	59	3	35	..	
Lismore	..	..	..	..	..	1	1	..	1	3	11	1	15	..	9	..	
Tobermory and Salen	..	..	..	..	..	2	1	1	3	7	11	3	16	..	23	..	
Lochs Don, Spelve and Buie	..	..	..	..	..	..	..	..	2	2	3	4	11	..	10	..	
Carsaig to Kintra	..	..	..	..	..	..	..	..	4	4	6	1	1	..	10	..	
Lochs Laich and Scriddan	..	..	..	..	..	..	1	1	4	6	9	2	2	..	29	..	
Ulva, Lochs Na Kael and Tuadh	..	..	..	..	..	..	1	..	9	10	18	1	2	..	24	..	
Coll	..	..	..	2	..	1	..	..	5	8	41	2	27	..	28	..	
Tiree	..	..	..	..	..	2	2	1	13	18	30	3	18	2	72	..	
Iona	..	..	..	..	..	..	..	..	1	1	2	..	..	..	5	..	
Canna	..	..	..	..	..	1	2	..	1	4	9	1	3	..	15	..	
Rum, Muck, etc.	..	..	1	..	..	2	1	..	4	8	36	5	31	1	13	..	
Totals	..	1	1	5	..	20	21	4	95	147	419	51	123	10	431	..	
<i>Campbeltown District.</i>																	
Carradale and Saddell	..	..	..	1	..	19	2	..	1	23	192	8	37	5	99	..	
Campbeltown and Machri- hanish.	..	..	..	3	..	56	12	2	3	76	597	17	141	11	315	..	
Sanda	..	..	..	..	..	..	1	..	..	1	2	2	12	..	2	..	
Southend	..	..	..	..	..	2	2	..	..	4	9	..	..	..	8	..	

\* Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.			
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.							
		Cwts.	£	Cwts.	£	£							
Nets and lines.	Loch Nevis.	87	33	241	113	..	Herrings, cod, saithe.	..	..	Little change from last year's results.			
Nets, lines, and creels.	North and South Minch.	183,499	145,091	24,292	33,417	406	Herrings, cod, ling, eels, skate.	7	..	Decrease in quantity of all kinds of fish, owing to smaller fleet engaged, and decrease in value, owing to lower prices.			
Lines and creels.	Inshore.	..	..	108	118	217	Haddock s, plaice.	..	..	Increase in quantity and value of white fish landed.			
"	"	..	..	268	496	..	Cod, haddocks.	..	..	Decrease in quantity of cod caught by nets, and corresponding decrease in value.			
"	"	7	6	294	199	259	Mackerel, cod, saithe.	..	..	Slight decrease in quantity and value.			
"	"	..	..	..	..	45	Whelks.	..	..	Creek of no importance. No fishing carried on.			
Nets and lines.	Loch Eil.	50	65	1,412	918	..	Saithe, whiting.	..	..	Marked increase in quantity and value of fish landed.			
"	Loch Linnhe.	7	8	26	9	18	Saithe.	..	..	Creek of no importance. Little fishing carried on.			
"	"						Do.	do.	do.	..	Do.	do.	do.
"	"						Do.	do.	do.	..	Do.	do.	do.
"	Off Barra, Coll, Tiree, and Irish Coast.						Herrings, mackerel, cod, ling, eels, skate.	8	..	Decrease in quantity, chiefly herrings, and decrease in value of all kinds, owing to lower prices.			
"	Round island.	106,198	91,392	18,126	15,809	108	Saithe.	..	..	Creek of no importance. Practically no fishing carried on.			
Nets, lines and creels.	Sound of Mull.	165	64	460	504	356	Cod, haddocks, eels.	..	..	Slight increase in quantity and value of white fish, but decrease in number and value of lobsters.			
Lines and creels.	Inshore.	..	..	92	84	34	Saithe, plaice.	..	..	Creek of little importance. Results similar to last year.			
"	"	..	..	86	43	50	"	..	..	Do. do. do.			
"	"	..	..	2	2	105	Lobsters.	..	..	Value of shell fish similar to last year.			
"	"	..	..	..	..	218	"	..	..	Considerable decrease in number and value of lobsters.			
Nets, lines, and creels.	Round island.	7	6	99	157	88	Cod, ling, eels, skate.	..	..	Decrease in white fish, but slight increase in shell fish.			
"	"	49	38	117	147	43	Herrings, cod, saithe.	..	..	Decrease in quantity and value of herrings. Quantity of white fish landed similar to last year.			
Lines and creels.	"	..	..	188	192	100	Cod, saithe, haddock s, lobsters.	..	..	Slight decrease in white fish, but increase in number and value of lobsters.			
"	"	..	..	..	..	464	Lobsters.	..	..	Increase in number and value of lobsters.			
"	"	..	..	33	14	..	Cod, saithe, eels, skate.	..	..	Results similar to last year. Crews from this creek usually land their catches at Mallaig.			
		290,069	236,703	45,844	52,222	2,511			15				
Seinenets.	Kilbrannan Sound.	11,032	6,981	654	90	110	Herrings and mackerel.	..	..	Gratifying increase in quantity and value of herrings and mackerel landed. No line fishing.			
Seinenets, lines, and creels.	"	56,100	34,681	10,010	8,137	358	Herrings, mackerel, cod, skate, whiting, and plaice.	5	..	Returns include herrings sold at sea. Decrease in quantity and value of herrings and mackerel. Increase in quantity of great line landings, but decrease in value. Increase in quantity and value for small lines.			
Creels.	Around the island.	..	..	..	..	52	Lobsters.	..	..	Increase in value of lobsters landed.			
Creels and lines.	Along the coast.	..	..	15	48	40	Cod and lobsters.	..	..	Decrease in quantity and value.			

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	*Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
	Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
<i>Campbeltown District—contd.</i>																
Muasdale and Ballochantees -	..	..	..	..	..	..	1	..	3	4	6	3	7	..	8	..
Gigha - - - - -	..	..	..	..	..	5	6	..	13	24	97	5	23	4	41	..
Port Ellen - - - - -	..	..	..	..	..	..	8	..	..	8	13	5	16	1	16	..
Portaskaig - - - - -	..	..	..	..	..	2	7	..	1	10	23	1	7	..	22	..
Portnahaven and Port Wemyss	..	..	..	..	..	..	16	..	14	30	39	27	44	7	35	..
Bowmore - - - - -	..	..	..	..	..	..	4	..	2	6	7	2	5	..	14	..
Port Charlotte - - - - -	..	..	..	..	..	..	4	..	..	4	7	1	8	..	10	..
Bruichladdich - - - - -	..	..	..	..	..	..	5	..	..	5	13	1	2	1	7	..
Loch Gruinart - - - - -	..	..	..	..	..	..	1	..	..	1	1	3	10	..	5	..
Jura - - - - -	..	..	..	..	..	..	2	..	4	6	10	2	2	..	5	..
Colonsay - - - - -	..	..	..	..	..	..	2	..	6	8	10	2	1	1	11	..
Totals - - - - -	..	..	..	4	..	84	73	2	47	210	1,026	67	291	30	598	..
<i>Inveraray District.</i>																
Luig - - - - -	..	..	..	..	..	1	4	..	26	31	53	16	15	3	38	..
Crinan - - - - -	..	..	..	..	..	..	1	..	2	3	8	3	8	1	5	..
Loch Kylesport - - - - -	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..	..
Tarbert - - - - -	..	..	..	..	..	47	..	..	11	58	446	7	50	6	203	..
Ardriashaig - - - - -	..	..	..	..	..	12	8	1	3	24	131	13	58	4	67	..
Lochgilphead - - - - -	..	..	..	..	..	2	1	..	1	4	21	6	44	1	13	..
Castleton - - - - -	..	..	..	..	..	3	..	..	..	3	19	4	24	..	14	..
Lochgair - - - - -	..	..	..	..	..	..	2	..	1	3	5	..	..	1	6	..
Minard - - - - -	..	..	..	..	..	4	..	..	2	6	40	3	15	..	20	..
Craræ - - - - -	..	..	..	..	..	2	..	..	..	2	13	1	7	..	8	..
Furnace - - - - -	..	..	..	..	..	..	..	..	3	3	4	..	..	3	6	..
Kenmore - - - - -	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inveraray - - - - -	..	..	..	..	..	..	..	..	5	5	6	1	10	1	5	..
Cairndhu to Newton - - - - -	..	..	..	..	..	..	..	..	2	2	1	2	13	..	5	..
Otter to Ardlamont - - - - -	..	..	..	..	..	..	..	..	1	1	1	1	4	..	3	..
Sold at sea - - - - -	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals - - - - -	..	..	..	..	..	71	16	1	57	145	748	60	250	20	393	..

\* Persons from inland centres temporarily engaged in fishing.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.					Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.			
		Cwts.	£	Cwts.	£	£			
Creels.	Along the coast.	..	..	..	..	400	Lobsters.	..	Increase in number and value of lobsters landed.
Drift nets, lines, and creels.	Around the island, and 1 to 5 miles S.W. from Cara.	127	82	1,606	1,715	559	Cod, lobsters, and herrings.	6	Greatly increased landings of cod, and increase in number and value of lobsters.
Drift nets and creels.	Along the coast.	119	95	24	66	281	Lobsters, herring, and cod.	..	Increase in landings of herrings and line fish, but large decrease in landings of lobsters.
Creels.	Sound of Islay.	..	..	..	..	427	Lobsters.	..	Increase in number and value of lobsters.
Lines and creels.	1 to 5 miles off Rhynn Light.	..	..	131	128	71	Cod, lobsters, and saithe.	..	Increase in quantities and values of all fish landed.
Nets and lines.	Lochindaal.	87	60	310	741	..	Plaice, had-docks, herrings, and cod.	..	Slight decrease in herrings, but greatly increased small line landings.
Nets, lines, and creels.	"	83	57	63	134	13	Flounders, herrings, and cod.	..	Decrease in herrings, but slight increase in small line landings.
"	"	193	124	29	60	75	Flounders, herrings, cod, and lobsters.	..	Do. do. do.
Nets and lines.	Gruinart Bay.	..	..	880	132	64	Saithes.	..	Increase in quantity of saithe, but decrease in value.
Creels.	Around the island.	..	..	..	..	146	Lobsters.	..	Decrease in number of lobsters landed, but slight increase in value.
"	"	..	..	..	..	269	"	..	Decrease in number and value of lobsters.
		67,747	42,080	13,722	11,251	2,874		11	
Creels.	Vicinity of Luing.	..	..	..	..	1,175	Lobsters.	..	Increase over last year in quantity and value of shell fish.
"	Vicinity of Crinan.	..	..	..	..	409	Oysters and lobsters.	..	A marked increase in the quantity and value of shell fish.
Seine nets and lines.	Skipness to Otter, Loch Fyne.	1,778	550	323	249	306	Herrings, mackerel, cod, and saithe.	2	Decreases in quantity and value of landings, fishermen preferring to sell their herrings at sea.
Seine nets, cod nets, and lines.	"	5,412	1,638	218	803	50	"	4	Increases in quantity and value, due chiefly to the large catch of herrings in vicinity.
Seine nets, drift nets, and lines.	"	..	..	..	..	..	"	..	
Lines.	Vicinity of Creek.	67	40	93	103	..	Cod.	..	Decreases in quantity and value of fish landed. Nearly all the fish caught by the boats from these creeks are sold at sea.
Seine nets, cod nets, and lines.	Skipness to Otter, Loch Fyne.	..	..	..	..	..	Herrings, cod, mackerel.	..	
Seine nets.	"	..	..	..	..	..	"	..	
Cod and drift nets, and lines.	Skipness to Otter, Loch Fyne.	513	228	169	106	..	Herrings, mackerel, cod.	..	An increase in quantity landed, but a decrease in value.
Cod and drift nets.	"	..	..	..	..	..	"	..	
Seine nets.	"	86,212	33,825	2,041	937	..	Herrings and mackerel.	..	Quantity and value more than double those of last year.
		93,982	36,281	2,844	1,698	1,940		6	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.														Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	* Non-resident Fisher- men and Boys.
	1st Class (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.	Increase on or Decrease from 1914.						
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.										
	Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No	Ton.	No.	Ton.	No.	No.	No.	
<i>Rothsay District.</i>																	
Rothsay (Bute) -	..	..	..	1	..	5	..	..	9	15	61	2	6	4	31	..	
Port Bannatyne " -	..	..	..	..	..	3	1	..	3	7	13	1	4	..	10	..	
St. Ninian's " -	..	..	..	..	..	3	1	..	6	10	33	2	9	2	16	..	
Kilchattan Bay " -	..	..	..	..	..	2	..	..	4	6	21	1	5	2	10	..	
Kyles of Bute (Argyll) -	..	..	..	..	..	4	4	..	8	16	31	4	1	5	22	..	
Toward to Holy Loch " -	..	..	..	..	..	1	1	..	5	7	9	1	2	1	9	..	
Blairmore, Ardentinn (Dumbartonshire)	..	..	..	..	..	..	1	..	2	3	2	2	1	2	3	..	
Kilcreggan to Arrochar (Dumbartonshire)	..	..	..	..	..	..	4	2	4	10	12	6	23	1	12	..	
Lochranza and Caticol (Arran)	..	..	..	..	..	2	..	..	2	4	11	3	10	1	6	..	
Pirnmill to Blackwater " -	..	..	..	2	..	1	..	..	..	3	33	2	10	1	10	..	
Blackwater to Whiting Bay (Arran)	..	..	..	..	..	..	..	1	1	2	3	1	1	1	3	..	
Whiting Bay to Lamlash (Arran)	..	..	..	..	..	..	..	..	4	4	4	1	2	..	4	..	
Totals -	..	..	..	3	..	21	12	3	48	87	233	2	10	20	136	..	
<i>Greenock District.</i>																	
Gareloch (Dumbartonshire)	..	..	..	..	..	..	3	..	2	5	8	1	2	3	5	..	
Helensburgh "	..	..	..	..	..	4	..	..	6	10	13	5	..	4	10	..	
Glasgow (Lanarkshire) -	†8	..	..	1	..	..	..	..	..	9	627	6	235	..	80	..	
Port Glasgow (Renfrewshire)	..	..	..	..	..	2	..	..	3	5	7	3	13	4	10	..	
Greenock "	..	..	..	..	..	4	10	1	1	16	78	3	41	4	20	..	
Wemyss Bay "	..	..	..	..	..	..	..	1	..	1	1	..	..	..	2	..	
Largs (Ayrshire) -	..	..	..	..	..	2	..	..	16	18	17	2	2	5	16	..	
Cumbraes (Buteshire) -	..	..	..	..	..	3	..	..	8	11	25	4	19	2	12	..	
Fairlie (Ayrshire) -	..	..	..	..	..	..	..	..	4	4	4	..	..	4	4	..	
Saltcoats "	..	..	..	..	..	6	2	..	6	14	61	5	12	6	23	..	
Ardrossan " -	..	..	..	..	..	..	..	..	..	..	..	2	6	..	..	..	
Irvine " -	..	..	..	..	..	3	3	..	2	8	31	6	19	3	15	..	
Troon " -	..	..	..	..	..	1	6	..	1	8	25	..	11	5	10	..	
Gourock (Renfrewshire) -	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals -	†8	..	..	1	..	25	24	2	49	109	897	13	218	40	207	..	
<i>Ballantrae District.</i>																	
Ayr -	..	..	..	..	..	2	4	..	1	7	14	3	76	1	8	..	
Dunure -	..	..	..	..	..	17	8	..	..	25	182	8	42	2	54	..	

\* Persons from inland centres temporarily engaged in fishing.

† Trawlers.



## No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets and lines.	Firth of Clyde.	29,011	11,636	3,632	4,162	18	Herrings, mackerel.	3	Marked decrease in quantity and value of herrings landed.	
				58	99	26	Cod, saithe, conger.	..	Decrease in codlings and saithe.	
	" S.E. of Bute.	193	129	247	205	26	Cod.	..	Decrease in landings.	
	" Kyles of Bute.	17,611	5,445	478	587	149	Herrings, mackerel.	..	Decrease in quantity and value of all kinds landed.	
							Herrings, cod.	..	Marked decrease in quantity and value of herrings landed, but slight increase in flounders.	
"	Off the coast.	10	2	274	532	95	Cod, saithe.	..	Slight increase in codlings.	
"	Lochs Long and Gail.	393	174	771	698	17	Herrings, cod, saithe.	..	Increase in quantity and value of herrings landed, but all other kinds showed a decrease.	
"	Firth of Clyde.	3,025	1,818	103	252	..	Herrings, plaice.	..	Increase in quantities and values of herrings and plaice. Decrease in other kinds.	
Nets, lines, creels.	Off the coast.	353	213	128	177	460	Lobsters.	..	Increase in quantities and values of mackerel, lobsters and mussels.	
		50,596	19,417	5,691	6,712	765		3		
Nets and lines.	The Gareloch.	..	..	10	6	188	Mackerel, mussels.	..	Increase in quantity and value of shell fish landed.	
"	Firth of Clyde.	389	129	78	123	128	Herrings, flounders.	..	Marked decrease in total quantity and value.	
Otter trawl, lines.	West Coast and Firth of Clyde.	1,022	465	60	94	..	Herrings, saithe, cod.	19	Very marked decrease in total landings.	
Nets and lines.	Firth of Clyde.	..	..	19	37	..	Flounders.	..	Decrease in quantities of codlings and saithe.	
Mussel dredge, lines.	"	399	338	1	3	537	Herrings, mussels.	2	Increase in landings of herrings, but a decrease in shell fish.	
Nets and lines.	"	..	..	105	142	..	Codlings, flounders.	..	Decided decrease in total landings.	
"	"	684	340	502	809	..	Herrings, mackerel.	..	Decrease in landings of herrings and congers.	
"	"	176	141	163	362	..	Herrings, codlings.	..	Increase in landings of herrings.	
"	"	6,250	4,446	675	355	6	Herrings.	..	Increase in total landings.	
Nets, lines, creels.	"	..	..	321	405	175	Codlings, lobsters.	..	Decrease in quantity and value of herrings landed. Increase in number of lobsters.	
Nets and lines.	Firth of Clyde.	64	70	76	225	..	Herrings, flounders.	..	Decrease in quantity and value of herrings landed.	
Nets, lines, creels.	"	18	18	23	29	2	Herrings, mackerel.	..	Decrease in total landings.	
Nets.	"	371	138	..	..	..	Herrings.	..	Landed by boats belonging to other districts.	
		9,373	6,085	2,033	2,590	1,036		21		
Nets.	Off coast.	14,565	6,724	1,746	844	..	Herrings.	..	Results show little change except that the value shows a distinct decrease.	
Nets and lines.	Clyde area.	1,806	1,087	1,982	2,737	179	Herrings and flounders.	..	A decided increase in the quantity of herrings, but a decrease in whittings. Increase in total quantity landed, but the value is substantially lower.	

TABLE A.—

STATION OR CREEK.	FISHING BOATS AND VESSELS belonging to Creek.													Seaworthy Boats Unemployed.	Resident Fishermen and Boys.	Non-resident Fisher- men and Boys.
	1st Class. (Including Steam Trawlers.)					2nd Class.		3rd Class.		Total.		Increase on or Decrease from 1914.				
	45 feet keel and upwards.		30 to 45 feet keel.		18 to 30 feet keel.		Under 18 feet keel.									
<i>Ballantrae District—contd.</i>	Steam	Motor	Sail	Motor	Sail	Motor	Sail	Motor	Sail	No.	Ton.	No.	Ton.	No.	No.	No.
Maidens - - - - -	..	..	..	..	..	17	14	..	..	31	117	1	4	4	45	..
Girvan - - - - -	..	..	..	..	..	21	9	1	1	32	202	1	8	3	81	..
Carleton - - - - -	..	..	..	..	..	1	1	..	3	5	16	1	1	1	8	..
Ballantrae - - - - -	..	..	..	..	..	2	9	..	7	18	46	1	5	5	23	..
Cairnryan - - - - -	..	..	..	..	..	2	1	..	1	4	9	1	..	..	13	..
Stranraer - - - - -	†2	..	..	..	..	22	8	1	13	46	388	1	209	5	66	18
Kirkcolm - - - - -	..	..	..	..	..	1	1	..	4	6	18	3	4	1	8	..
Portpatrick - - - - -	..	..	..	..	..	3	..	2	7	12	24	7	17	1	16	..
Port Logan - - - - -	..	..	..	..	..	..	1	..	5	6	10	3	6	2	6	..
Drummore - - - - -	..	..	..	..	..	5	6	2	9	22	65	6	18	2	36	..
Sandhead - - - - -	..	..	..	..	..	2	..	2	11	15	17	..	13	1	14	..
Glenluce - - - - -	..	..	..	..	..	..	1	..	8	9	9	1	1	..	8	..
Port William - - - - -	..	..	..	..	..	1	2	..	13	16	29	..	3	2	15	..
Whithorn Isle - - - - -	..	..	..	..	..	..	2	..	8	10	29	2	20	1	12	..
Garliestown - - - - -	..	..	..	..	..	..	1	..	2	3	8	4	11	..	4	..
Creetown - - - - -	..	..	..	..	..	..	..	..	6	6	8	7	25	..	12	..
Kirkcudbright - - - - -	..	..	..	..	..	..	5	..	4	9	24	2	12	..	12	..
Carsethorn - - - - -	..	..	..	..	..	..	2	..	..	2	5	..	..	..	8	..
Glencaple - - - - -	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	..
Annan - - - - -	..	..	..	..	..	..	43	2	4	49	208	7	10	..	84	..
Totals - - - - -	†2	..	..	..	..	96	118	10	107	333	1,428	17	145	31	545	18
Grand Totals for 1920 - - -	†1,208	568	220	327	86	910	1118	142	3234	7813	107,692	581	19,605	760	32,642	351

\* Persons from inland centres temporarily engaged in fishing.

† 351 trawlers, 852 drifters or liners and 2 mussel dredgers.

† Trawlers.



No. II.—continued.

Methods of Fishing pursued.	Position of Principal Fishing Grounds.	QUANTITY AND VALUE OF FISH LANDED.						Principal kinds of Fish Landed.	No. of Curing Stations.	GENERAL REMARKS.
		Herrings.		Other kinds (excluding Shell Fish).		Value of Shell Fish.				
		Cwts.	£	Cwts.	£	£				
Nets and lines.	Clyde area and off coast.	538	540	2,515	4,940	..	Whittings and flounders.	..	..	Last year's results fully maintained; improvement in small line fishing.
Nets, lines, and cod nets.	Clyde area.	8,857	5,849	6,816	8,903	195	Herrings cod, plaice.	4	..	Total quantity is somewhat similar to last year's, but value shows a very decided falling off on account of lower prices.
	Cod nets.	Ballantrae Bank.	14	20	1,987	2,074	..	Cod and saithe.	..	Fishing is now fairly much confined to the spring cod-net fishing. While the quantity landed was nearly doubled, value shows a decrease.
Nets and lines.	Loch Ryan.	8,829	4,818	8,098	11,651	1,748	Herrings, cod, plaice, and skate.	1	..	Herring fishing poor, and in consequence total quantity and value show substantial decreases, notwithstanding the landing of catches by two steam trawlers for five months and four east coast craft for a shorter period. The decrease in the value of herrings exceeds the total value of all kinds for 1920.
	"	"	21	25	479	694	..	"	..	Decrease in quantity and value. Loch Ryan proving unproductive.
Lines and creels.	Off coast.	2	3	1,146	2,527	150	Cod.	..	..	Local fishermen showed decided activity, but financial results are little more than half those for 1919.
Nets and creels.	"	8	6	2	3	41	Shell fish.	..	..	Little done at this creek.
Nets, lines, and creels.	Luce Bay	{	..	..	1,015	1,641	723	Cod, plaice, skate and lobsters.	..	Decrease in landings, especially as regards value. Improvement in shell fisheries.
	Wigtown Bay.		..	..	453	701	87			
..			..	616	1,554	19				
Nets and lines.	Wigtown Bay.	..	..	716	1,362	40	Cod, plaice, and mussels.	{	..	Falling off in landings. Do. do.
		..	..	159	311	144				
..		..	41	142	116					
Nets.	Off coast.	..	..	49	36	1,197	Mussels.	..	..	The shell fisheries were better maintained.
"	Solway Firth.	..	..	341	915	..	Flounders.	..	..	Increase in mussels and other kinds.
	"	..	..	390	778	..	Flounders and shrimps.	..	..	Little difference from last year.
Beamtrawl.	"	..	..	2,772	3,069	7,248	..	..	..	A very decided decrease in the quantity of flounders caught, but increase in shrimps. Total value shows slight decrease.
		34,640	19,072	31,339	44,979	12,249		5		
		3,155,165	2,244,680	3,170,774	4,275,303	106,846		771		

TABLE A.—No. III.

MAXIMUM LOCAL ACTIVITY IN HERRING FISHING.—RETURN for the year 1920, showing the number of Boats and Persons engaged in the Herring Fishing Industry in the various Districts in Scotland during the week of greatest activity.

DISTRICT.	Date.	No. of Boats.				No. of Persons Employed.					
	Week ending.	Steam.	Motor.	Sail.	Total.	Fishermen and Boys.	Curers.	Coopers.	Gutters and Packers.	Labourers.	Total.
Eyemouth, . . .	Aug. 21	169	1	...	170	1,529	20	4	331	166	2,050
Leith, . . .	Mar. 6	2	75	41	118	378	19	21	79	38	535
Anstruther, . . .	Mar. 20	2	86	14	102	692	37	10	...	50	789
Montrose, . . .	Jan. 17	...	...	10	10	35	2	...	...	2	39
Stonehaven, . . .	July 31	...	8	...	8	32	2	1	12	3	50
Aberdeen, . . .	Aug. 7	40	6	...	46	384	14	15	130	25	568
Peterhead, . . .	July 17	180	80	2	262	2,296	108	306	1,958	339	5,007
Fraserburgh, . . .	July 31	345	155	15	515	4,295	87	367	2,463	415	7,627
Banff, . . .	July 17	15	27	2	44	348	11	29	204	31	623
Buckie, . . .	July 17	100	40	2	142	1,234	18	96	558	32	1,938
Findhorn, . . .	Jan. 10	...	15	45	60	272	20	6	20	22	340
Cromarty, . . .	Sept. 25	...	1	3	4	16	...	...	...	3	19
Helmsdale, . . .	Aug. 21	...	12	8	20	80	1	4	12	2	99
Lybster, . . .	Aug. 14	...	6	16	22	88	2	5	24	2	121
Wick, . . .	July 10	220	70	5	295	2,800	80	300	1,340	152	4,672
Orkney, . . .	July 31	63	12	6	81	696	14	79	438	36	1,263
Shetland, . . .	July 5	221	59	97	377	3,081	53	309	1,647	172	5,262
Stornoway, . . .	Feb. 21	110	10	25	145	1,210	40	60	360	130	1,800
Barra, . . .	May 29	25	30	14	69	503	14	22	195	20	754
Loch Broom, . . .	Jan. 10	...	9	56	65	301	...	2	3	2	308
Loch Carron and Skye, . . .	Jan. 31	25	10	30	65	425	52	30	72	26	605
Fort William, . . .	May 15	110	30	1	141	1,347	121	68	123	88	1,747
Campbeltown, . . .	Oct. 16	...	64	...	64	310	19	1	16	20	366
Inveraray, . . .	Nov. 13	...	184	...	184	788	6	2	18	6	820
Rothsay, . . .	Jan. 17	...	60	...	60	240	20	...	...	12	272
Greenock, . . .	Sept. 4	...	6	2	8	32	21	16	84	97	250
Ballantrae, . . .	Feb. 28	...	90	4	94	372	35	15	12	26	460



TABLE B.—No. I.

FISH LANDED.—STATEMENT of the Total Quantity and Value of **Herrings** taken by nets from Steam, Motor, and Sailing Boats respectively and landed in **Scotland** during the various Seasons of the Year 1920.

No.	DISTRICT.	Winter. (1st Jan. to 31st Mar.)								Early Summer. (1st April to 30th June.)	
		Steam.		Motor.		Sail.		TOTAL.		Steam.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	EAST COAST.	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1	Eyemouth . . .	108	54	290	157	..	..	398	211	1,736	1,582
2	Leith . . .	171	180	13,829	13,151	2,562	2,324	16,562	15,655	612	379
3	Anstruther . . .	248	155	14,321	12,373	28	33	14,597	12,561	9	1
4	Montrose . . .	..	..	14	22	423	251	437	273	39	74
5	Stonehaven . . .	..	..	..	..	..	..	..	..	..	..
6	Aberdeen . . .	6,095	3,098	..	..	..	..	6,095	3,098	3,535	1,956
7	Peterhead . . .	22,160	12,687	..	..	..	..	22,160	12,687	20,201	15,601
8	Fraserburgh . . .	24,222	13,700	1,145	592	..	..	25,367	14,292	34,321	24,213
9	Banff . . .	2,593	1,461	..	..	..	..	2,593	1,461	752	552
10	Buckie . . .	45,551	29,831	2,590	1,974	..	..	48,141	31,805	2,975	2,192
11	Findhorn . . .	84	57	2,474	703	31,946	6,844	34,504	7,609	298	192
12	Cromarty . . .	..	..	..	..	..	..	..	..	..	..
13	Helmsdale . . .	..	..	3	4	..	..	3	4	..	..
14	Lybster . . .	..	..	4	4	..	..	4	4	..	..
15	Wick . . .	172,179	131,833	20,735	13,227	705	447	193,619	145,507	58,674	42,760
	East Coast Totals	273,411	193,056	55,405	42,212	35,664	9,899	364,480	245,167	123,152	89,502
	ORKNEY AND SHETLAND.										
16	Orkney . . .	196	216	..	..	..	..	196	216	18,046	10,989
17	Shetland . . .	7,588	3,321	2,054	690	..	..	9,642	4,011	17,270	13,373
	Orkney and Shetland Totals	7,784	3,537	2,054	690	..	..	9,838	4,227	35,316	24,362
	WEST COAST.										
18	Stornoway . . .	75,387	50,800	6,044	4,084	7,196	4,477	88,627	59,361	21,962	19,868
19	Barra . . .	..	..	1,263	453	203	75	1,466	528	2,961	1,650
20	Loch Broom . . .	28	11	1,194	492	3,090	1,182	4,312	1,685	..	..
21	Loch Carron & Skye . . .	31,720	28,045	6,313	6,091	1,762	851	39,795	34,987	2,737	1,983
22	Fort-William . . .	127,513	109,507	15,974	16,163	42	38	143,529	125,708	51,609	43,335
23	Campbeltown . . .	..	..	10,866	7,797	206	172	11,072	7,969	7	6
24	Inveraray . . .	..	..	10,213	4,491	..	..	10,213	4,491	..	..
25	Rothsay . . .	..	..	35,679	13,738	..	..	35,679	13,738	..	..
26	Greenock . . .	..	..	1,694	506	..	..	1,694	506	..	..
27	Ballantrae . . .	840	660	12,291	5,364	174	202	13,305	6,226	..	..
	West Coast Totals	235,488	189,023	101,531	59,179	12,673	6,997	349,692	255,199	79,276	66,842
	Grand Tls. for 1920	516,633	385,616	158,990	102,081	48,337	16,896	724,010	504,593	237,744	180,706
	Grand Tls. for 1919	344,287	364,075	348,527	416,675	49,893	63,369	742,707	844,119	219,718	137,285
	Increase in 1920 . . .	172,396	21,541	..	..	..	..	..	..	18,026	43,421
	Decrease in 1920 . . .	..	..	189,537	314,594	1,556	46,453	18,697	339,526	..	..

TABLE B.—

FISH LANDED.—STATEMENT of the Total Quantity and Value of **Herrings**  
**Scotland** during the various

No.	DISTRICTS.	Early Summer— <i>continued</i> . (1st April to 30th June.)						Great Summer and Autumn. (1st July to 31st Dec.)			
		Motor.		Sail.		TOTAL.		Steam.		Motor.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	EAST COAST.	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£
1	Eyemouth . . .	15,835	12,774	..	..	17,571	14,356	16,303	11,453	27,420	19,465
2	Leith . . .	1,473	1,303	357	323	2,442	2,005	2,140	2,352	947	791
3	Anstruther . . .	549	476	18	20	576	497	7,815	5,232	1,333	870
4	Montrose . . .	88	227	..	..	127	301	177	105	216	179
5	Stonehaven . . .	423	476	..	..	423	476	..	..	160	156
6	Aberdeen . . .	1,113	1,041	..	..	4,648	2,997	71,763	63,455	1,726	1,452
7	Peterhead . . .	9,016	7,871	46	31	29,263	23,503	228,050	181,383	85,592	66,814
8	Fraserburgh . . .	11,277	8,228	430	299	46,028	32,740	278,109	205,313	143,233	105,377
9	Banff . . .	1,190	946	..	..	1,942	1,498	14,823	10,564	12,755	9,456
10	Buckie . . .	1,246	955	..	..	4,221	3,147	39,124	27,277	12,041	8,560
11	Findhorn . . .	11	18	..	..	309	210	13,320	8,941	6,593	3,797
12	Cromarty . . .	..	..	3	2	3	2	..	..	16	8
13	Helmsdale . . .	14	12	..	..	14	12	..	..	1,529	959
14	Lybster . . .	7	4	..	..	7	4	..	..	973	620
15	Wick . . .	22,988	18,032	553	412	82,215	61,204	190,806	136,349	68,721	49,203
	East Coast Totals	65,230	52,363	1,407	1,087	189,789	142,952	862,430	652,429	363,255	267,707
	ORKNEY AND SHETLAND.										
16	Orkney . . .	5,187	3,186	231	169	23,464	14,344	55,503	38,529	9,493	6,620
17	Shetland . . .	5,510	4,200	8,042	5,529	30,822	23,102	208,697	158,325	28,651	20,339
	Orkney and Shetland Totals	10,697	7,386	8,273	5,698	54,286	37,446	264,200	196,854	38,144	26,959
	WEST COAST.										
18	Stornoway . . .	6,370	5,867	6,866	5,223	35,198	30,958	98,991	60,182	20,606	13,544
19	Barra . . .	7,242	4,725	2,493	1,503	12,696	7,878	24,812	19,111	1,974	1,616
20	Loch Broom . . .	..	..	2	2	2	2	21	8	749	291
21	Loch Carron & Skye . . .	1,090	984	39	27	3,866	2,994	14,664	8,852	13,615	7,923
22	Fort-William . . .	14,814	12,014	290	94	66,713	55,443	56,165	39,496	23,507	15,942
23	Campbeltown . . .	5,821	2,460	..	..	5,823	2,466	..	..	50,533	31,422
24	Inveraray . . .	5,573	2,724	28	30	5,601	2,754	..	..	77,633	23,838
25	Rothsay . . .	794	362	560	298	1,354	680	..	..	12,343	4,466
26	Greenock . . .	1,170	521	667	474	1,837	995	..	..	4,840	3,930
27	Ballantrae . . .	5,008	3,611	92	87	5,100	3,698	..	..	16,231	9,145
	West Coast Totals	47,882	33,268	11,037	7,738	138,195	107,848	194,653	127,649	222,086	117,117
	Grand Tls. for 1920	123,809	93,017	20,717	14,523	382,270	288,246	1,321,283	976,932	623,485	411,783
	Grand Tls. for 1919	199,435	111,858	92,452	29,357	511,605	278,500	1,188,833	565,295	978,038	426,756
	Increase in 1920 . . .	..	..	..	..	..	9,746	132,450	411,637	..	..
	Decrease in 1920 . . .	75,626	18,841	71,735	14,834	129,335	..	..	..	354,553	14,973



## No. I.—continued.

taken by nets from Steam, Motor, and Sailing Boats respectively and landed in Seasons of the Year 1920.

Great Summer and Autumn—contd. (1st July to 31st Dec.)				TOTALS.								GRAND TOTAL.		No.
Sail.		TOTAL.		Steam.		Motor.		Sail.						
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.			
Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£			
..	..	43,723	30,923	18,147	13,094	43,545	32,396	..	..	61,692	45,490	1		
531	283	3,618	3,426	2,923	2,911	16,249	15,245	3,450	2,930	22,622	21,086	2		
60	40	9,208	6,142	8,072	5,388	16,203	13,719	106	93	24,381	19,200	3		
244	139	637	423	216	179	318	428	667	390	1,201	997	4		
24	26	184	182	..	..	583	632	24	26	607	658	5		
124	112	73,613	65,019	81,393	68,509	2,839	2,493	124	112	84,356	71,114	6		
1,968	1,497	315,610	249,694	270,411	209,671	94,608	74,685	2,014	1,528	367,033	285,884	7		
8,304	5,751	429,646	316,441	336,652	243,226	155,655	114,197	8,734	6,050	501,041	363,473	8		
172	131	27,750	20,151	18,168	12,577	13,945	10,402	172	131	32,285	23,110	9		
801	534	51,966	36,371	87,650	59,300	15,877	11,489	801	534	104,328	71,323	10		
9,811	4,362	29,724	17,100	13,702	9,190	9,078	4,523	41,757	11,206	64,537	24,919	11		
304	152	320	160	..	..	16	8	307	154	323	162	12		
542	310	2,071	1,269	..	..	1,546	975	542	310	2,088	1,285	13		
620	347	1,593	967	..	..	984	628	620	347	1,604	975	14		
2,016	1,393	261,543	186,945	421,659	310,942	112,444	80,462	3,274	2,252	537,377	393,656	15		
25,521	15,077	1,251,206	935,213	1,256,993	934,987	483,890	362,282	62,592	26,063	1,805,475	1,323,332			
3,072	2,084	68,068	47,233	73,745	49,734	14,680	9,806	3,303	2,253	91,728	61,793	16		
32,903	21,352	270,251	200,016	233,655	175,019	36,215	25,229	40,945	26,881	310,715	227,129	17		
35,975	23,436	338,319	247,249	307,300	224,753	50,895	35,035	44,248	29,134	402,443	288,922			
23,579	18,676	148,176	92,402	196,340	130,850	33,020	23,495	42,641	23,376	272,001	182,721	18		
215	105	27,001	20,832	27,773	20,761	10,479	6,794	2,911	1,693	41,163	29,238	19		
2,189	628	2,959	927	49	19	1,943	783	5,281	1,812	7,273	2,614	20		
8,463	3,459	26,742	20,234	40,121	38,880	21,018	14,998	10,264	4,337	80,403	58,215	21		
155	114	79,827	55,552	235,287	192,338	54,295	44,119	487	246	290,069	236,703	22		
314	223	50,847	31,645	7	6	67,220	41,679	520	395	67,747	42,080	23		
485	198	78,168	29,036	..	..	93,469	36,053	513	228	93,982	36,281	24		
1,215	553	13,563	5,019	..	..	48,821	18,566	1,775	851	50,596	19,417	25		
1,002	654	5,842	4,584	..	..	7,704	4,957	1,669	1,128	9,373	6,085	26		
4	3	16,235	9,148	840	660	33,530	18,120	270	292	34,640	19,072	27		
42,621	24,613	459,360	269,379	509,417	383,514	371,499	209,564	66,331	39,348	947,247	632,426			
104,117	63,126	2,048,885	1,451,841	2,075,710	1,543,254	906,284	606,881	173,171	94,545	3,155,165	2,244,680			
314,303	121,889	2,481,174	1,113,940	1,752,838	1,066,655	1,526,000	955,289	456,648	214,615	3,735,486	2,236,559			
..	..	..	337,901	322,872	476,599	..	..	..	..	..	8,121			
210,186	58,763	432,289	..	..	..	619,716	348,408	283,477	120,070	580,321	..			







TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the district of Leith during the Year 1920, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.			Lines.						Nets.				1920. Total Quantity and Value.		1919. Total Quantity and Value.	
	Steam.	Value.		Steam.	Motor.	Sail.	Total.	Steam.	Motor.	Sail.	Total.	Quantity.		Value.	Cwt.		£
No. of Vessels arriving	..	Quantity.	£	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aggregate No. of Days absent from Port . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Description of Fish.	Quantity.	Value.	£	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	£	Quantity.	Value.	£
PELAGIC FISH—	Cwt.	£	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	£	Cwt.	£	£
Herrings . . . . .	1,986	2,256	..	..	..	..	..	937	655	3,450	2,930	20,836	18,830	21,086	22,622	25,344	40,839
Sprats . . . . .	..	..	..	..	..	..	..	..	..	3,265	958	3,881	1,190	1,190	3,881	2,466	467
Sparlings . . . . .	..	..	..	..	..	..	..	..	..	83	435	83	435	83	83	20	120
Mackerel . . . . .	323	314	..	4	4	4	4	..	..	..	..	..	..	318	327	154	143
Total of Pelagic Fish.	2,309	2,570	..	4	4	4	4	937	655	6,798	4,323	24,600	20,455	23,029	26,913	27,984	41,569
DEMERSAL FISH—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
ROUND.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cod . . . . .	98,735	130,900	3684	6,937	11,588	1,924	11,388	..	636	1,612	1,717	2,248	2,864	151,763	112,371	66,241	129,067
Codling . . . . .	6,188	7,061	589	278	306	..	703	..	..	..	..	..	..	7,956	6,891	3,828	6,420
Ling . . . . .	17	15	..	243	97	11	555	..	..	..	..	..	..	15	17	15	15
Torsk (Tusk) . . . . .	11,424	5,347	135	..	..	..	247	..	..	..	..	..	..	5,594	11,979	6,433	5,033
Saithe (Coal Fish) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Haddock, ex. La. } Large } Medium } Small }	246,237	281,485	..	8,617	19,657	1,698	10,315	..	..	31	41	31	41	256,583	256,583	172,893	315,348















[illegible]

\* Included are 2 landings by motor trawlers, representing an absence from port of 2 days, and totalling 20 cwt.s. plaice, value £53.

















[illegible]

\* Included are 433 landings by motor trawlers totalling 2397 cwts., valued at £5980, mostly plaice.

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of **Fraserburgh** during the Year 1920, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.		Lines.						Nets.					
	Steam.*	Quantity.	Value.	Motor.	Sail.		Total.		Steam.	Motor.	Sail.		Total.	
					Quantity.	Value.	Quantity.	Value.			Quantity.	Value.	Quantity.	Value.
No. of Vessels arriving Aggregate No. of Days absent from Port . . . . .	35	4	5,378	6,161	11,543	7,214	4,203	979	12,396	1919. Total Quantity and Value.	1920. Total Quantity and Value.			
Description of Fish.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
PELAGIC FISH—	Cwt.	\$	Cwt.	\$	Cwt.	\$	Cwt.	\$	Cwt.	\$	Cwt.	\$		
Herrings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Sprats . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Sparlings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Mackerel . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Total of Pelagic Fish.	..	..	..	..	..	..	..	..	..	..	..	..		
DEMERSAL FISH—	..	..	..	..	..	..	..	..	..	..	..	..		
Round.	..	..	..	..	..	..	..	..	..	..	..	..		
Cod . . . . .	378	907	22	42	10,541	14,758	9,403	8,930	19,966	23,730	16,969	27,517		
Codling . . . . .	5	10	..	..	114,614	1438	3	5	1,149	1,443	543	982		
Ling . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Torsk (Turk) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Saithe (Coal Fish). . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
Haddock, ex. La. . . . .	..	..	..	..	..	..	..	..	..	..	..	..		
" " Large Medium Small . . . . .	322	525	..	..	417	7759	720	1,110	5,137	8,869	8,940	17,521		





















[illegible]

## SEHELL-FISH.

[illegible]











[illegible]

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Lybster during the Year 1920, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.		Lines.						Nets.						1920. Total Quantity and Value.		1919. Total Quantity and Value.	
	Quantity.	Value.	Steam.	Motor.		Sail.		Total.	Steam.	Motor.		Sail.		Total.				
				Quantity.	Value.	Quantity.	Value.			Quantity.	Value.	Quantity.	Value.		Quantity.	Value.		
No. of Vessels arriving Aggregate No. of Days absent from Port . . . . .	..		..		621	488	1,109	..	..	158	110	268	..	..	1920. Total Quantity and Value.	1919. Total Quantity and Value.		
Description of Fish.																		
PELAGIC FISH—																		
Herrings . . . . .	..	£	..	..	Cwt.	£	..	..	..	Cwt.	£	..	..	..	Cwt.	£		
Sprats . . . . .	..	..	..	..	..	..	..	..	..	984	628	347	1,004	975	560	282		
Sparlings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Mackerel . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Total of Pelagic Fish .	..	..	..	..	..	..	..	..	..	984	628	347	1,604	975	560	282		
DEMERSAL FISH—																		
Round.																		
Cod . . . . .	..	..	..	..	1,146	1,380	803	1,949	2,213	..	..	..	..	..	1,949	2,213		
Codling . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,577	2,740		
Ling . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Torsk (Tusk) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Saithe (Coal Fish) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Haddock, ex. La. . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Large . . . . .	..	..	..	..	938	1,324	199	1,137	1,495	..	..	..	..	..	1,137	1,495		
Medium . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	902	1,321		
Small . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		









[illegible]





[illegible]





[illegible]

## SHELL-FISH.

Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.
No.	No.	No.	Cwts.	Cwts.	Cwts.
£ ..	£ ..	£ ..	£00 163	£ ..	\$ 1,172 332
(over)					

TOTAL VALUE OF ALL FISH

Fish used for Manure (included above)

Bait ( "





[illegible]











[illegible]

# SHIEL-FISH

TOTAL VALUE OF ALL FISH	
Fish used for Manure (included above)	
"	Bait ( " )
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100





[illegible]

## SHELL-FISH.

[illegible]

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Fort-William during the Year 1920, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.		Lines.						Nets.						1920. Total Quantity and Value.		1919. Total Quantity and Value.	
	Steam.	Value.	Steam.	Quantity.	Value.	Motor.	Quantity.	Value.	Steam.	Quantity.	Value.	Sail.	Quantity.	Value.	Cwt.	£	Cwt.	£
No. of Vessels arriving Aggregate No. of Days absent from Port . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Description of Fish.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
PELAGIC FISH—	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£
Herrings . . . . .	..	..	..	..	..	..	..	..	235,287	192,338	54,295	44,119	487	246	290,069	236,703	378,561	411,208
Sprats . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spargings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackerel . . . . .	..	..	..	..	..	..	..	..	10,171	9,401	576	470	396	152	11,137	10,923	10,339	9,902
Total of Pelagic Fish.	..	..	..	..	..	..	..	..	245,458	201,739	54,865	44,589	883	398	301,206	216,726	388,900	421,110
DEMERSAL FISH—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Round.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cod . . . . .	163	154	5,672	7,183	1,697	1,697	439	524	..	..	..	..	..	..	2,100	2,523	12,852	25,861
Codling . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,883	7,410
Ling . . . . .	2	3	2,120	2,521	417	362	26	48	..	..	..	..	..	..	2,565	2,934	108	208
Torsk (Tusk) . . . . .	..	..	129	93	26	15	..	..	..	..	..	..	..	..	..	155	219	3,626
Saithe (Coal Fish) . . . . .	50	28	1,327	873	265	411	1,269	584	..	..	..	..	50	24	3,111	1,722	3,467	3,626
Haddock, ex. l.a., " Large " Medium " Small	120	140	..	..	161	241	151	188	..	..	..	..	..	..	432	569	1,477	1,923



SHELL-FISH.																								
Oysters.					Lobsters.			Crabs.		Mussels.		Clams.		Unclassified.										
No.	£	No.	£	No.	£	No.	£	No.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£	Cwts.	£					
Whittings	5	6	135	148	149	190	284	338	..	1,753	1,885	547	764	2,300	2,649	24,953	28,075	32,024	58,517					
Conger Eels	..	..	2,000	1,867	42	37	8,148	9,695	..	..	..	..	..	..	..	8,148	9,695	9,169	17,749					
Gurnards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1					
Catfish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Monks (Anglers)	2	1	65	156	..	..	222	551	..	..	..	..	..	..	..	2	1	32	51					
Hake	73	70	395	..	..	..	..	..	..	..	..	..	..	..	..	295	621	559	1,269					
Total of Round Fish	415	402	15,511	4,597	2,076	1,571	22,238	25,024	..	1,753	1,885	547	764	2,300	2,649	24,953	28,075	32,024	58,517					
FLAT.																								
Turbot	4	21	..	314	..	..	470	3,037	..	..	..	..	..	..	..	4	21	45	292					
Halibut	6	24	..	..	..	..	..	..	..	..	..	..	..	..	..	476	3,061	932	6,291					
Lemon Soles	4	13	..	..	..	..	..	..	..	..	..	..	..	..	..	4	13	25	141					
Flounders	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Plaice, Large	158	426	..	68	230	335	276	403	..	50	152	8	25	58	177	492	1,006	1,248	5,776					
" Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Brill	2	10	..	..	..	..	..	..	..	..	..	..	..	..	..	2	10	52	406					
Dabs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	37	40					
Whittches	4	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Megrim	5	11	..	..	..	..	..	..	..	..	..	..	..	..	..	4	9	1	..					
Total of Flat Fish	183	514	418	382	230	335	746	3,440	..	50	152	8	25	58	177	987	4,131	2,340	12,950					
Skates and Rays	45	36	5,385	2,774	123	110	8,152	9,608	..	..	4	..	..	3	4	8,200	9,648	10,510	17,949					
Squids	..	..	264	..	..	..	467	270	..	..	..	..	..	..	..	..	345	1,021	919					
Unclassified kinds	..	..	344	45	23	10	..	..	..	61	47	39	28	100	75	567	..	..	..					
GRAND TOTALS	643	952	21,658	7,493	2,452	2,026	31,003	38,342	245,458	201,739	56,732	46,677	1,477	303,667	249,631	335,913	288,925	434,795	511,445					
TOTAL VALUE OF ALL FISH															Unclassified.					..				
Fish used for Manure (included above)															Cwts.					£				
Bait ( " " )															1,454					687				
..															..					2,511				
..															..					291,436				
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[illegible]

# SHELL-FISH.

Oysters.		Lobsters.		Crabs.		Mussels.		Clams.		Unclassified.	
No.	£	No.	£	No.	£	Cwts.	£	Cwts.	£	Cwts.	£
..	..	28,696	2,382	1,114	17	280	24	..	..	1,377	451
TOTAL VALUE OF ALL FISH											
Fish used for Manure (included above)											
Bait (											





[illegible]

## SHELL-FISH.

[illegible]

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Rothesay during the Year 1920, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.			Lines.						Nets.						1920. Total Quantity and Value.		1919. Total Quantity and Value.	
	Steam.	Quantity.	Value.	Steam.	Quantity.	Value.	Motor.	Quantity.	Value.	Sail.	Quantity.	Value.	Total.	Quantity.	Value.	Cwt.	£	Cwt.	£
No. of Vessels arriving Aggregate No. of Days absent from Port . . . . .	..			..			..			..			..						
	..			..			..			..			..						
Description of Fish.	Quantity.	Value.		Quantity.	Value.		Quantity.	Value.		Quantity.	Value.		Quantity.	Value.		Cwt.	£	Cwt.	£
	Cwt.	£		Cwt.	£		Cwt.	£		Cwt.	£		Cwt.	£		Cwt.	£	Cwt.	£
PELAGIC FISH—																			
Herrings . . . . .	..		..	..		..	..		..	..		..	..	..	..	48,821	18,566	1,775	851
Sprats . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Sparlings . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Mackerel . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Total of Pelagic Fish.	..		..	..		..	..		..	..		..	..	..	..	49,716	18,877	2,236	1,100
DEMERSAL FISH—																			
Round.																			
Cod . . . . .	..		..	..		..	..		..	..		..	..	..	..	525	887	484	532
Codling . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Ling . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Torsk (Tusk) . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Saithe (Coal Fish) . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Haddock, ex. La. . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Large . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Medium . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Small . . . . .	..		..	..		..	..		..	..		..	..	..	..	..	..	..	..
Total of Demersal Fish.	..		..	..		..	..		..	..		..	..	..	..	51,952	19,977	51,952	19,977
Total of all Fish.	..		..	..		..	..		..	..		..	..	..	..	100,668	38,854	100,668	38,854



[illegible]









Whittings	252	192	1,783	3,049	658	1,312	2,441	4,361	3	8	2,548	4,979	5,294	18,030	23,702	19,311	2,871	6,671
Conger Eels	20	24	305	756	28	56	623	812	..	..	..	..	..	..	..	..	711	1,810
Gurnards	82	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	12
Catfish	2	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	7
Monks (Anglers)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hake	159	257	10	17	..	..	10	17	..	52	..	18	52	187	326	40	2	120
Total of Round Fish	1,874	2,400	8,697	11,507	2,480	4,501	11,177	16,008	2,852	2,746	2,127	2,548	4,979	18,030	23,702	19,311	2,871	6,671
FLAT.																		
Turbot	17	57	1	6	9	23	10	29	23	58	..	..	23	58	144	32	165	86
Halibut	9	26	4	23	1	5	5	28	..	..	..	..	..	..	54	14	86	14
Lemon Soles	8	39	3	17	..	..	3	17	..	55	..	..	..	55	111	188	24	188
Flounders	122	270	4	9	1	1	5	10	..	..	731	1,693	731	1,693	1,973	845	1,602	1,602
Plaice, Large	3,147	4,413	..	127	112	333	150	460	..	8,108	320	953	8,000	9,061	13,934	7,059	15,570	15,570
" Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brill	9	28	2	2	..	..	2	2	..	146	6	12	..	11	30	2	2	5
Dabs	17	19	36	77	35	86	71	165	..	..	..	..	..	183	342	221	379	379
Whites	41	71	..	..	..	..	..	..	..	..	..	..	..	41	71	100	100	100
Megrim	15	24	..	..	..	..	..	..	..	..	..	..	..	15	24	1	1	1
Total of Flat Fish	3,385	4,947	88	261	158	450	246	711	2,800	8,367	1,057	2,658	3,857	7,488	16,683	8,298	18,066	18,066
Skates and Rays	270	299	896	911	132	149	1,028	1,060	161	154	325	335	486	1,784	1,848	2,994	4,108	4,108
Squids	130	182	..	..	..	..	..	..	..	..	..	..	..	..	190	112	131	131
Unclassified kinds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
GRAND TOTALS	5,660	7,829	9,701	12,694	2,887	5,264	12,588	17,958	42,999	31,571	3,892	6,033	47,731	38,204	65,979	77,284	111,630	111,630

## SHELL-FISH.

[illegible]

\* Included are 2772 cwt. small plaice, value £3,069, landed by sailing trawlers.

TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed on the **East Coast of Scotland** during the Year 1920.

DESCRIPTION OF FISH.	TRAWLS.				LINES.				NETS.				1920.		1919.	
	Steam.*		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Grand Total Quantity and Value.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£
PELAGIC FISH.																
Herrings	41,415	40,429	..	..	..	..	..	..	..	..	..	..	..	..	2,079,358	1,033,552
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50,894	10,327
Spardings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	729	..
Mackerel	1,430	1,377	..	..	913	387	..	..	..	..	..	..	..	..	218	..
Total of Pelagic Fish	42,851	41,806	..	..	913	387	..	..	..	..	..	..	..	..	21,032	10,160
DEMERSAL FISH.																
(a) ROUND.																
Cod	639,176	919,165	53,257	67,210	77,149	106,819	34,093	39,662	165,404	213,691	..	..	..	..	1,805,475	1,923,332
Codling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,905,475	1,923,332
Line	44,143	44,295	74,345	61,122	1,968	2,576	18	23	76,331	63,721	..	..	..	..	33,189	5,001
Torsk (Tusk)	672	547	9,628	8,415	1	1	..	..	9,629	8,416	..	..	..	..	762	192
Saithe (Coal Fish)	138,284	85,198	3,769	1,623	1,921	842	779	493	5,869	2,958	..	..	..	..	30,495	11,251
Haddock, ex. La.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Large	1,018,827	1,284,314	326	374	1,985,76	226,751	23,879	36,178	150,781	267,303	..	..	..	..	1,809,351	1,340,348
" Medium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whittings	138,562	115,617	..	..	13,502	10,706	2,856	2,679	16,358	13,385	..	..	..	..	889,294	1,195,429
Conser Eels	599	493	619	676	411	509	12	18	1,042	1,263	..	..	..	..	120,490	108,044
Gurnards	4,904	1,661	..	..	35	23	35	23	..	..	..	..	..	..	10,301	8,963
Gatfish	19,728	14,777	38	18	1,256	1,443	178	260	1,472	1,721	..	..	..	..	144,629	88,653
Monks (Anglers)	18,303	12,424	..	..	..	..	..	..	..	..	..	..	..	..	54	1,109,057
Hake	15,521	32,610	214	504	..	..	..	..	..	..	..	..	..	..	15,741	33,153
Total of Round Fish	2,063,719	2,511,066	142,196	139,912	222,185	353,653	62,761	79,310	427,145	572,935	3,960	5,169	5,243	6,043	2,559,703	3,147,724
															1,731,680	2,823,824





TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Orkney and Shetland** during the Year 1920.

DESCRIPTION OF FISH.	TRAWLS.				LINES.								NETS.								1920. Grand Total Quantity and Value.		1919. Grand Total Quantity and Value.	
	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.									
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£	Cwt.	£				
PELAGIC FISH.																								
Herrings	..	..	..	..	..	..	..	..	307,300	224,753	50,895	35,035	44,248	29,134	402,443	288,922	402,443	288,922	513,515	198,773				
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Sparrings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Mackerel	..	..	..	..	..	..	..	..	1,103	347	314	95	346	137	1,763	579	1,763	579	1,775	618				
Total of Pelagic Fish	..	..	..	..	..	..	..	..	308,403	225,100	51,209	35,130	44,594	29,271	404,206	289,501	404,206	289,501	515,290	199,391				
DEMERSAL FISH.																								
(a) ROUND.																								
Cod	51	69	1,254	978	1,005	1,091	3,229	3,128	..	..	978	623	281	168	1,259	781	4,539	3,978	3,584	4,247				
Codling	..	..	..	..	1,293	1,899	3,164	4,362	..	..	..	..	..	..	..	..	3,164	4,362	5,685	9,615				
Ling	35	45	695	500	417	310	1,375	1,011	..	..	..	..	..	..	..	..	1,410	1,056	3,984	3,498				
Torsk (Tusk)	..	..	355	136	204	100	688	302	..	..	..	..	..	..	..	..	688	302	1,122	804				
Saithe (Coal Fish)	..	..	2,453	720	889	265	6,069	2,400	..	..	..	..	525	27	525	27	6,594	2,427	2,330	1,931				
Haddocks, ex. L.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
" Large	..	..	..	..	6,679	7,079	9,531	10,174	..	..	..	..	..	..	..	..	9,531	10,174	12,336	27,889				
" Medium	19	26	..	..	3,513	4,054	5,843	6,469	..	..	..	..	..	..	..	..	5,843	6,469	9,203	17,759				
" Small	20	25	..	..	810	530	976	1,225	..	..	..	..	..	..	..	..	1,806	1,250	2,963	4,165				
Whiting	..	..	..	..	445	451	854	1,170	..	..	..	..	..	..	..	..	1,299	1,170	1,291	1,153				
Conger Eels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Gurnards	..	..	..	..	4	3	..	3	..	..	..	..	..	..	..	..	..	..	..	..				
Catfish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Monks (Anglers)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Hake	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Total of Round Fish	125	165	4,760	2,334	15,259	15,782	33,038	30,244	..	..	978	623	806	185	1,784	803	34,947	31,217	42,469	70,216				





TABLE B.—No II —FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed on the **West Coast of Scotland** during the Year 1920.

DESCRIPTION OF FISH.	TRAWLS.			LINES.						NETS.						1920. Grand Total Quantity and Value.		1919. Grand Total Quantity and Value.	
	Steam.*		TOTAL.	Motor.		Sail.	TOTAL.		Motor.		Sail.	TOTAL.							
	Quantity.	Value.		Quantity.	Value.		Quantity.	Value.	Quantity.	Value.		Quantity.	Value.	Quantity.	Value.				
PELAGIC FISH.	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£			
Herrings	..	..	..	..	..	..	509,417	383,514	371,482	209,561	66,348	39,351	947,247	632,426	947,247	632,426			
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Sparrings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Mackerel	1	1	..	20	15	166	16,126	11,418	18,315	8,637	2,904	1,423	37,345	21,478	37,345	21,478			
Total of Pelagic Fish	1	1	..	20	15	166	509,417	394,932	399,797	218,198	69,298	40,871	984,608	654,001	984,751	654,183			
DEMERSAL FISH.																			
(a) ROUND.																			
Cod	1,185	1,772	7,949	10,276	11,877	14,218	..	..	7,915	7,390	3,488	3,922	11,403	11,318	42,185	43,956			
Codling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Ling	24	23	2,510	3,137	1,068	1,259	1,948	2,239	5,524	6,635	..	..	34	44	5,542	6,702			
Torsk (Tusk)	..	..	131	94	39	30	61	41	231	165	..	..	..	..	231	165			
Saithe (Coal Fish)	171	122	3,636	2,426	1,669	700	8,218	2,290	13,523	5,416	2	..	5,314	3,312	19,008	8,850			
Haddock, ex. L.A.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Large	303	331	..	..	604	990	11,822	12,740	12,426	13,730	..	..	161	304	12,955	14,415			
Medium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Whiting	257	198	..	..	2,209	3,869	1,166	1,871	3,375	5,740	..	..	3	8	3,635	5,946			
Conger Eels	20	24	6,401	8,184	3,628	3,702	1,387	1,298	11,417	13,184	..	..	..	..	11,437	13,208			
Gurnards	82	20	..	..	..	..	296	358	296	358	..	..	..	..	378	330			
Catfish	2	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Monks (Anglers)	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Hake	292	327	172	422	84	191	..	..	..	..	..	..	762	2,026	1,255	2,975			
Total of Round Fish	2,343	2,876	20,799	24,539	21,177	24,959	31,674	32,218	76,650	81,716	7	2	12,916	12,265	4,754	4,745			







[illegible]

NOTE.—The above represent 3 landings by a Norwegian trawler at Aberdeen, absent from port for an aggregate of 56 days.

TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Scotland** during the Year 1920.

DESCRIPTION OF FISH.	TRAWLS.			LINES.						NETS.						1919.		1920.					
	Steam, &c.*		Value.	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Grand Total Quantity and Value.		Grand Total Quantity and Value.	
	Quantity.	Cwt.		Quantity.	Cwt.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Cwt.	£	Quantity.	Value.	Quantity.	£	Cwt.	£	Cwt.	£
PELAGIC FISH.																							
Herrings	41,415	40,429	..	..	..	..	..	..	..	..	..	2,034,295	1,502,925	906,267	603,878	173,188	94,548	3,113,750	2,204,251	3,155,165	2,244,680	3,735,486	2,238,559
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	710	273	32,479	4,728	33,189	5,001	33,189	5,001	50,894	10,327
Sparlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	208	859	208	859	208	859	256	983
Mackerel	1,437	1,378	..	..	..	933	402	1,337	887	2,270	1,259	34,864	17,564	27,310	11,570	3,895	1,719	66,039	30,853	69,746	33,490	47,895	20,247
Total of Pelagic Fish	42,852	41,807	..	..	..	933	402	1,337	887	2,270	1,259	2,069,159	1,520,389	934,287	618,721	200,740	101,954	3,213,186	2,240,964	3,258,308	2,284,039	3,834,531	2,277,116
DEMERSAL FISH.																							
(a) Round.																							
Cod	691,920	922,804	62,460	78,464	91,324	124,027	47,610	54,556	201,394	257,047		3,927	5,143	44,653	59,708	8,796	9,821	57,376	74,672	950,690	1,251,523	645,234	1,135,304
Ling	44,208	44,370	77,550	64,759	3,451	4,145	2,229	2,463	83,230	71,367		..	..	40	71	1	1	50	72	127,488	115,906	84,692	118,003
Torsk (Turk)	672	547	10,114	8,645	244	131	190	107	10,548	8,883		..	..	..	..	..	..	..	..	11,320	9,430	4,800	4,393
Saithe (Coal Fish)	138,597	85,359	9,861	4,789	3,879	1,807	11,721	4,198	25,491	10,774		..	15	4,396	2,915	1,900	906	6,315	3,836	170,373	99,069	106,999	96,254
Haddocks, ex. l.a.												..	..	..	..	..	..	..	..	..	..	..	..
" Large	1,019,311	1,284,860	326	374	136,132	243,404	41,909	55,123	180,417	298,901		..	..	..	..	179	317	31	41	210	358	1,199,938	1,584,119
" Medium																							
" Small																							
Whiting	136,819	115,815	7,020	8,860	4,040	4,211	1,399	1,316	12,459	14,387		..	..	..	..	5	5	10	14	157,861	136,124	84,205	106,915
Conger Eels	619	452	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	13,130	15,025	13,964	26,025
Gurnards	4,980	1,681	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	..	..	..
Catfish	19,748	14,793	38	18	1,256	1,443	178	260	1,472	1,721		..	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers)	18,305	12,435	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	..	..	..
Hake	15,753	32,967	396	926	88	197	7	12	431	1,135		..	..	..	..	701	2,024	1	2	762	2,025	10,996	36,128
Total of Round Fish	2,090,938	2,516,073	167,755	166,815	258,924	391,894	110,454	123,686	536,833	684,865		3,967	5,171	50,530	65,399	10,803	10,973	65,390	81,543	2,693,071	3,292,511	1,886,503	3,083,106

[illegible]

Included are 8 057 cwts. (mostly plaice) value £8 790 landed by motor trawlers, and 2 772 cwts. (small plaice), value £3 069 landed by sailing trawlers.



TABLE B.—III.

SUMMARY of the Means of Capture and Fish Landed for the Years from 1889 to 1920 inclusive.

Year.	Number of Vessels.*	Value of Boats and Gear.	Total Catch. (Excluding Shell-fish).		Number of Fishermen and Shore-workers.
			Quantity.	Value.	
		£	Cwts.	£	
1889 . .	14,714	1,603,307	5,589,239	1,454,175	...
1890 . .	14,352	1,590,636	5,864,488	1,623,346	...
1891 . .	13,933	1,637,305	5,434,206	1,762,494	...
1892 . .	13,862	1,756,800	5,436,138	1,595,555	...
1893 . .	13,491	1,785,365	6,208,018	1,624,896	...
1894 . .	13,297	1,796,530	6,188,774	1,565,821	...
1895 . .	13,098	1,820,429	6,107,044	1,763,991	...
1896 . .	12,040	1,873,870	6,146,738	1,571,803	88,242
1897 . .	11,633	1,922,685	5,001,672	1,627,754	81,549
1898 . .	11,576	2,029,384	6,557,768	1,879,866	86,964
1899 . .	11,245	2,383,776	5,145,076	2,189,933	84,538
1900 . .	11,275	2,711,877	5,369,265	2,325,994	82,809
1901 . .	11,201	3,001,301	6,385,170	2,238,310	83,905
1902 . .	11,097	3,212,455	6,866,028	2,502,668	85,367
1903 . .	11,008	3,448,168	6,518,808	2,401,287	84,553
1904 . .	10,891	3,431,284	7,947,829	2,231,102	86,621
1905 . .	10,581	3,304,695	7,856,310	2,649,148	88,201
1906 . .	10,554	4,117,549	7,593,369	2,977,593	92,305
1907 . .	10,365	4,857,816	9,018,153	3,149,127	94,783
1908 . .	10,078	5,223,149	8,645,252	2,512,162	92,857
1909 . .	9,889	5,291,533	7,423,185	2,889,107	92,060
1910 . .	9,724	5,439,857	8,709,655	3,100,387	90,813
1911 . .	9,543	5,628,087	8,511,974	3,060,574	89,152
1912 . .	9,290	5,777,102	8,587,106	3,588,584	89,715
1913 . .	8,991	6,035,952	7,828,350	3,925,360	90,710
1914 . .	8,869	6,297,745	7,440,321	3,143,507	87,119
1915 . .	4,653	1,668,765	2,319,390	2,051,171	35,461
1916 . .	4,650	1,827,346	3,412,030	3,147,675	37,009
1917 . .	4,609	1,902,167	3,079,768	3,645,015	35,746
1918 . .	4,614	3,038,592	3,313,228	5,991,693	37,624
1919 . .	6,534	9,223,456	5,969,015	6,064,045	60,159
1920 . .	8,177	11,916,468	6,327,723	6,522,062	70,983

\* Although the number of vessels shows a steady decrease there was a marked increase in the catching power, owing to the gradual adoption of steam and motor propulsion.

TABLE C.

FISH USED IN A FRESH STATE.—Table showing the Estimated Quantity of each Species of Fish consumed fresh in Scotland, or dispatched from Scotland in a fresh state, in the Year 1920.

Description of Fish.	1920. Quantity.	1919. Quantity.
	Cwts.	Cwts.
Herrings . . . . .	700,288	869,879
Sprats . . . . .	31,989	32,794
Sparlings . . . . .	208	256
Mackerel . . . . .	65,903	45,317
Cod and Codlings . . . . .	621,011	570,127
Ling . . . . .	38,220	45,761
Torsk (Tusk) . . . . .	8,844	4,023
Saithe . . . . .	65,340	81,075
Haddocks . . . . .	415,400	687,900
Whittings . . . . .	69,007	55,395
Conger Eels . . . . .	13,130	13,964
Gurnards . . . . .	5,321	6,109
Catfish . . . . .	18,036	16,623
Monks . . . . .	18,602	9,675
Hake . . . . .	16,996	10,153
Squids . . . . .	50	20
Turbot . . . . .	7,860	3,153
Halibut . . . . .	76,441	44,184
Lemon Soles . . . . .	33,157	18,155
Flounders . . . . .	4,254	2,934
Plaice . . . . .	92,136	68,553
Brill . . . . .	644	520
Dabs . . . . .	8,912	7,127
Whitches and Megrims . . . . .	17,425	12,395
Skates and Rays . . . . .	126,328	81,304
Unclassified kinds . . . . .	8,675	8,833
Total . . . . .	2,464,177	2,696,229

TABLE D.—No. I.

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the Year 1920.

		(a) HERRINGS.					
No.	DISTRICT.	Barrels Gutted.	Barrels Un- gutted.	Barrels Kip- pered.	Barrels of Bloaters or Reds.	Barrels Tinned.	Total Number of Barrels.
EAST COAST.							
1	Eymouth . . . . .	13,655	703	51,435	2,321	4,343	72,457
2	Leith . . . . .	252	..	4,700	225	..	5,177
3	Anstruther . . . . .	2,885½	..	66	320	..	3,271½
4	Montrose . . . . .	..	14	70	44	428	556
5	Stonehaven . . . . .	..	..	140	..	..	140
6	Aberdeen . . . . .	1,437	36	27,833	10,344	23,010	62,660
7	Peterhead . . . . .	86,327	410	29,470	26	1,825	118,058
8	Fraserburgh . . . . .	105,490	2,449	32,256	1,060	8,639	149,894
9	Banff . . . . .	8,787	..	2,360	..	..	11,147
10	Buckie . . . . .	14,407	2,362	8,296	223	..	25,288
11	Findhorn . . . . .	4,890	..	100	..	..	4,990
12	Cromarty . . . . .	..	..	..	..	..	..
13	Helmsdale . . . . .	316	..	..	..	..	316
14	Lybster . . . . .	398	..	1,005	..	..	1,403
15	Wick . . . . .	94,000	8,630	39,617	..	..	142,247
East Coast Totals . . .		332,844½	14,604	197,348	14,563	38,245	597,604½
Orkney and Shetland.							
16	Orkney . . . . .	34,975	..	..	..	..	34,975
17	Shetland . . . . .	107,351	319	4,189	..	..	111,859
Orkney and Shetland } Totals . . . . .		142,326	319	4,189	..	..	146,834
WEST COAST.							
18	Stornoway . . . . .	48,827	5,410	24,487	20	..	78,744
19	Barra . . . . .	15,956	95	..	..	..	16,051
20	Loch Broom . . . . .	508	..	..	..	..	508
21	Loch Carron and Skye . .	1,244	182	2,636	28	..	4,090
22	Fort-William . . . . .	4,681	125	8,769	..	..	13,575
23	Campbeltown . . . . .	780	..	148	..	..	928
24	Inveraray . . . . .	806	..	62	4	..	872
25	Rothsay . . . . .	193	..	440	20	..	653
26	Greenock . . . . .	4,568	..	14,155	65	..	18,788
27	Ballantrae . . . . .	95	..	1,249	..	..	1,344
West Coast Totals . . .		77,658	5,812	51,946	137	..	135,553
Grand Totals for 1920 . .		552,828½	20,735	253,483	14,700	38,245	879,991½
Grand Totals for 1919 . .		624,217	61,535	293,040	15,097	39,997	1,033,886
Increase in 1920 . . . .		..	..	..	..	..	..
Decrease in 1920 . . . .		71,388½	40,800	39,557	397	1,752	153,894½

Note 1.—No vessels were fitted out for curing at sea during the year.

2.—The figures above represent the quantities pickled "bungpacked," i.e. as finally packed. Corresponding particulars in "seastick" state, i.e. before herrings have "pined" will be found in Appendix D.—No. II.

3.—Included above are 720 crans kippers, 6,289 crans reds, and 270 crans tinned, manufactured from herrings imported from England, and 1,128 crans kippers and 75 crans reds manufactured from herrings imported in a fresh state from Norway.



TABLE D.—No. I.—*continued.*

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the year 1920.

(b) SPECIES OTHER THAN HERRINGS.						
Description of Fish.	Dried.	Smoked.	Pickled.	Tinned	Total 1920.	Total 1919.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Sprats . . .	..	..	1,200	..	1,200	18,100
Mackerel . .	..	223	771	1,120	2,114	1,482
Cod and Codling	56,333	80,240	..	..	136,573	35,381
Cod Roes . .	..	..	..	200	200	..
Ling . . .	27,764	2,988	..	..	30,752	12,967
Torsk . . .	792	..	..	..	792	259
Saithe . . .	11,341	35,505	..	..	46,846	12,168
Haddocks . .	8,084	370,942	..	9,201	388,227	106,950
Whittings . .	..	44,427	..	..	44,427	14,405
Skate . . .	154	..	..	..	154	267
Catfish . . .	..	1,708	..	..	1,708	..
Total . . .	104,468	536,033	1,971	10,521	652,993	201,979

Note 1.—In addition to the above there was imported from Iceland and Faroe, in a wet-salted or partly dried state and dried in Scotland, 21,449 cwts. of fish (cod, 14,439 cwts.; ling, 1,410 cwts.; saithe, 3,800 cwts.; and haddocks, 1,800 cwts).

2.—The above figures represent the weights after cure.

TABLE D.—No. II.

HERRINGS CURED.—STATEMENT showing the Numbers of \*Barrels of Herrings Cured, Gutted and Ungutted, on the East and West Coasts of Scotland, for the Hundred and ten years ended 31st December 1920.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.	
6th April 1811	2,008 $\frac{1}{2}$	6,630	8,638 $\frac{1}{2}$	62,186	19,110	81,296	89,934 $\frac{1}{2}$
" 1812	4,325 $\frac{1}{2}$	10,332	14,657 $\frac{1}{2}$	65,922	24,518	90,440	105,097 $\frac{1}{2}$
" 1813	9,179	20,950 $\frac{1}{2}$	30,129 $\frac{1}{2}$	76,561 $\frac{3}{4}$	31,025 $\frac{1}{2}$	107,587 $\frac{1}{4}$	137,716 $\frac{3}{4}$
" 1814	9,503	46,800 $\frac{1}{2}$	56,303 $\frac{1}{2}$	37,969	5,773	43,742	100,045 $\frac{1}{2}$
" 1815	24,314	36,827	61,141	76,021 $\frac{1}{4}$	7,756	83,777 $\frac{1}{4}$	144,918 $\frac{1}{4}$
" 1816	55,411 $\frac{1}{2}$	18,416 $\frac{1}{2}$	73,828	73,292 $\frac{1}{2}$	2,578 $\frac{1}{4}$	75,870 $\frac{3}{4}$	149,698 $\frac{3}{4}$
" 1817	90,710 $\frac{1}{2}$	26,252 $\frac{1}{2}$	116,963	60,581 $\frac{1}{2}$	3,233 $\frac{1}{2}$	63,815	180,778
" 1818	118,594 $\frac{3}{4}$	8,287 $\frac{1}{4}$	126,882	76,765	4,491 $\frac{1}{2}$	81,256 $\frac{1}{2}$	208,138 $\frac{1}{2}$
" 1819	221,959 $\frac{1}{2}$	22,158	244,117 $\frac{1}{2}$	75,197 $\frac{1}{2}$	6,441	81,638 $\frac{1}{2}$	325,756
" 1820	267,556 $\frac{1}{2}$	27,391 $\frac{1}{2}$	294,948	72,629 $\frac{1}{2}$	4,512	77,141 $\frac{1}{2}$	372,089 $\frac{1}{2}$
" 1821	318,473 $\frac{1}{2}$	23,909 $\frac{1}{4}$	342,382 $\frac{3}{4}$	88,626 $\frac{1}{2}$	2,613	91,239 $\frac{1}{2}$	433,622 $\frac{1}{4}$
" 1822	229,070	12,808 $\frac{3}{4}$	241,878 $\frac{3}{4}$	56,342 $\frac{1}{2}$	1,328	57,670 $\frac{1}{2}$	299,549 $\frac{1}{4}$
" 1823	183,687	15,256 $\frac{1}{4}$	198,943 $\frac{1}{4}$	34,211	245 $\frac{1}{2}$	34,456 $\frac{1}{2}$	233,399 $\frac{3}{4}$
" 1824	272,340 $\frac{1}{2}$	32,402	304,742 $\frac{1}{2}$	57,792	802 $\frac{1}{4}$	58,594 $\frac{1}{4}$	358,336 $\frac{3}{4}$
" 1825	227,667	28,849 $\frac{3}{4}$	256,516 $\frac{3}{4}$	64,623	593	65,216	321,732 $\frac{3}{4}$
" 1826	289,101	31,703 $\frac{1}{4}$	320,804 $\frac{1}{4}$	42,602	121	42,723	363,527 $\frac{1}{4}$
" 1827	211,042 $\frac{3}{4}$	22,241 $\frac{1}{2}$	233,284 $\frac{1}{2}$	43,231	117	43,348	276,632 $\frac{1}{2}$
" 1828	287,906 $\frac{1}{2}$	37,882 $\frac{1}{2}$	325,789	45,632	2,039 $\frac{1}{2}$	47,671 $\frac{1}{2}$	373,460 $\frac{1}{2}$
" 1829	249,365 $\frac{1}{2}$	41,047 $\frac{1}{4}$	290,412 $\frac{3}{4}$	47,525	945	48,470	338,882 $\frac{3}{4}$
" 1830	216,427 $\frac{1}{2}$	35,226	251,653 $\frac{1}{2}$	59,494	639	60,133	311,786 $\frac{1}{2}$
" 1831	315,479	51,609 $\frac{3}{4}$	367,088 $\frac{3}{4}$	46,631	855	47,486	414,574 $\frac{3}{4}$
" 1832	259,197 $\frac{1}{2}$	36,183 $\frac{1}{2}$	295,381	49,216 $\frac{1}{4}$	3,167	52,383 $\frac{1}{4}$	347,764 $\frac{1}{4}$
" 1833	267,928 $\frac{1}{2}$	45,564 $\frac{3}{4}$	313,493 $\frac{1}{4}$	77,144	573	77,717	391,210 $\frac{1}{4}$
" 1834	315,159	56,374 $\frac{3}{4}$	371,533 $\frac{3}{4}$	64,427 $\frac{1}{2}$	137	64,564 $\frac{1}{2}$	436,098 $\frac{1}{2}$

\* The figures in this table, so far as relating to pickled herrings, gutted or ungutted, represent the numbers of barrels of "sea-sticks."  
*Vide* Note 2 to Appendix D.—No. I. (p. 126).

TABLE D.—No. II.—*continued*.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.	
5th April 1835	166,539 $\frac{1}{2}$	33,339 $\frac{1}{2}$	199,879	45,091 $\frac{1}{2}$	633	45,724 $\frac{1}{2}$	245,603 $\frac{1}{2}$
" 1836	343,693 $\frac{1}{2}$	68,891 $\frac{1}{2}$	412,585 $\frac{1}{2}$	46,554 $\frac{1}{2}$	479	47,033 $\frac{1}{2}$	459,618 $\frac{1}{2}$
" 1837	229,371	71,449 $\frac{1}{2}$	300,820 $\frac{1}{2}$	54,859	1,892 $\frac{1}{2}$	56,751 $\frac{1}{2}$	357,571 $\frac{1}{2}$
" 1838	307,625	82,634 $\frac{1}{2}$	390,259 $\frac{1}{2}$	68,990 $\frac{1}{2}$	2,374 $\frac{1}{2}$	71,365	461,624 $\frac{1}{2}$
" 1839	308,581	119,489 $\frac{1}{2}$	428,070 $\frac{1}{2}$	66,046 $\frac{1}{2}$	1,672 $\frac{1}{2}$	67,719	495,789 $\frac{1}{2}$
" 1840	345,074 $\frac{1}{2}$	103,160	448,234 $\frac{1}{2}$	54,208 $\frac{1}{2}$	343	54,551 $\frac{1}{2}$	502,786
" 1841	334,539	78,225 $\frac{1}{2}$	412,764 $\frac{1}{2}$	87,562 $\frac{1}{2}$	3,402 $\frac{1}{2}$	90,965	503,729 $\frac{1}{2}$
" 1842	404,502 $\frac{1}{2}$	116,675 $\frac{1}{2}$	521,178	78,755 $\frac{1}{2}$	2,183 $\frac{1}{2}$	80,939	602,117
" 1843	376,374	118,755 $\frac{1}{2}$	495,129 $\frac{1}{2}$	61,568 $\frac{1}{2}$	1,627	63,195 $\frac{1}{2}$	558,325 $\frac{1}{2}$
" 1844	384,729	105,927 $\frac{1}{2}$	490,656 $\frac{1}{2}$	81,643	4,776	86,419	577,075 $\frac{1}{2}$
5th January 1845	305,461 $\frac{1}{2}$	72,649 $\frac{1}{2}$	378,110 $\frac{1}{2}$	80,836	901	81,737	459,847 $\frac{1}{2}$
" 1846	343,927	82,607 $\frac{1}{2}$	426,534 $\frac{1}{2}$	64,056	3,753 $\frac{1}{2}$	67,809 $\frac{1}{2}$	494,344
" 1847	343,009 $\frac{1}{2}$	137,296 $\frac{1}{2}$	480,306 $\frac{1}{2}$	67,613	11,263	78,876	559,182 $\frac{1}{2}$
" 1848	323,471 $\frac{1}{2}$	135,479	458,950 $\frac{1}{2}$	46,636 $\frac{1}{2}$	9,570	56,206 $\frac{1}{2}$	515,157
" 1849	337,450	155,654 $\frac{1}{2}$	493,104 $\frac{1}{2}$	52,473	6,981	59,454	552,558 $\frac{1}{2}$
" 1850	427,138	152,530	579,668	77,171 $\frac{1}{2}$	25,029 $\frac{1}{2}$	102,201 $\frac{1}{2}$	681,869 $\frac{1}{2}$
" 1851	320,493	129,532 $\frac{1}{2}$	450,025 $\frac{1}{2}$	57,694	21,134	78,828	528,853 $\frac{1}{2}$
" 1852	348,573	109,933	458,506	68,660 $\frac{1}{2}$	36,220 $\frac{3}{4}$	104,881	563,387
31st December 1852	331,055 $\frac{1}{2}$	89,355	420,410 $\frac{1}{2}$	44,623 $\frac{1}{2}$	13,903	58,526 $\frac{1}{2}$	478,937
" 1853	482,017	165,459 $\frac{1}{2}$	647,476 $\frac{1}{2}$	78,350	28,431 $\frac{1}{2}$	106,781 $\frac{1}{2}$	754,257 $\frac{3}{4}$
" 1854	410,332	132,977 $\frac{1}{2}$	543,309 $\frac{1}{2}$	48,247 $\frac{1}{2}$	31,207 $\frac{1}{2}$	79,455	622,764 $\frac{1}{2}$
" 1855	505,481 $\frac{1}{2}$	136,687 $\frac{1}{2}$	642,169 $\frac{1}{2}$	77,175 $\frac{1}{2}$	32,631	109,806 $\frac{1}{2}$	751,975 $\frac{1}{2}$
" 1856	396,650	92,400 $\frac{1}{2}$	489,050 $\frac{1}{2}$	79,755 $\frac{1}{2}$	32,492 $\frac{1}{2}$	102,248	591,298 $\frac{1}{2}$
" 1857	390,775	59,712 $\frac{1}{2}$	450,487 $\frac{1}{2}$	74,447 $\frac{1}{2}$	25,763 $\frac{1}{2}$	100,211	550,698 $\frac{1}{2}$
" 1858	410,524 $\frac{1}{2}$	111,440 $\frac{3}{4}$	521,965 $\frac{1}{2}$	59,868 $\frac{1}{2}$	23,350	83,218 $\frac{1}{2}$	605,184
" 1859	308,518 $\frac{1}{2}$	55,584	364,102 $\frac{1}{2}$	72,541	20,487	93,028	457,130 $\frac{1}{2}$
" 1860	424,201 $\frac{1}{2}$	103,086 $\frac{1}{2}$	527,287 $\frac{3}{4}$	71,894	37,891 $\frac{1}{2}$	109,785 $\frac{1}{2}$	637,073 $\frac{1}{2}$
" 1861	447,931 $\frac{1}{2}$	97,207	545,138 $\frac{1}{2}$	71,241 $\frac{1}{2}$	34,336 $\frac{1}{2}$	105,578	650,716 $\frac{1}{2}$

\* The figures in this table, so far as relating to the years 1835 to 1844, are taken from the annual reports of the Fishery Board for Scotland, and are not subject to revision. The figures for the years 1845 to 1861 are taken from the annual reports of the Fishery Board for Scotland, and are not subject to revision.



TABLE D.—No. II.—*continued.*

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kipperd, &c.	Total.	Gutted.	Ungutted, Kipperd, &c.	Total.	
31st December 1862	536,602 $\frac{1}{2}$	88,911	625,513 $\frac{1}{2}$	119,257 $\frac{1}{2}$	52,685	171,942 $\frac{1}{2}$	797,456
" 1863	445,596 $\frac{1}{2}$	75,511 $\frac{3}{4}$	521,108 $\frac{1}{4}$	61,396 $\frac{1}{2}$	26,810	88,206 $\frac{1}{2}$	609,314 $\frac{3}{4}$
" 1864	378,752	88,107 $\frac{3}{4}$	466,859 $\frac{3}{4}$	99,737 $\frac{1}{2}$	42,889	142,626 $\frac{1}{2}$	609,486 $\frac{1}{4}$
" 1865	374,424	73,814 $\frac{1}{2}$	448,238 $\frac{1}{2}$	95,920 $\frac{1}{2}$	57,207	153,127 $\frac{1}{2}$	601,366
" 1866	398,358	72,420 $\frac{1}{2}$	470,778 $\frac{1}{2}$	99,396 $\frac{1}{2}$	74,431	173,827 $\frac{1}{2}$	644,605 $\frac{3}{4}$
" 1867	492,172 $\frac{1}{4}$	81,978 $\frac{1}{2}$	574,150 $\frac{3}{4}$	139,547 $\frac{1}{4}$	90,392	229,939 $\frac{1}{4}$	804,090
" 1868	363,922 $\frac{1}{2}$	62,906	426,828 $\frac{1}{2}$	81,546	129,886 $\frac{1}{2}$	211,432 $\frac{1}{2}$	638,260 $\frac{3}{4}$
" 1869	395,500 $\frac{1}{2}$	61,809 $\frac{3}{4}$	457,310 $\frac{1}{2}$	93,330 $\frac{1}{2}$	124,502 $\frac{1}{2}$	217,832 $\frac{1}{2}$	675,143
" 1870	508,805 $\frac{1}{2}$	98,318	607,123 $\frac{1}{2}$	148,254	77,783	226,037	833,160 $\frac{1}{2}$
" 1871	585,172	94,178	679,350	83,317 $\frac{1}{2}$	62,808 $\frac{1}{2}$	146,125 $\frac{3}{4}$	825,475 $\frac{3}{4}$
" 1872	623,443 $\frac{1}{2}$	62,341	685,784 $\frac{1}{2}$	48,260	39,815	88,075	773,859 $\frac{1}{2}$
" 1873	710,376 $\frac{1}{2}$	96,983 $\frac{3}{4}$	807,360	86,225 $\frac{1}{2}$	45,348	131,573 $\frac{1}{2}$	939,233 $\frac{3}{4}$
" 1874	789,345 $\frac{1}{2}$	77,489 $\frac{3}{4}$	866,835 $\frac{1}{2}$	97,657	36,088 $\frac{3}{4}$	133,725 $\frac{3}{4}$	1,000,561
" 1875	774,293 $\frac{1}{2}$	67,729	842,022 $\frac{1}{2}$	60,529	40,428 $\frac{1}{2}$	100,957 $\frac{1}{2}$	942,980
" 1876	454,164	59,230	513,394	32,074 $\frac{1}{2}$	52,729	84,803 $\frac{1}{2}$	598,197 $\frac{1}{2}$
" 1877	618,116 $\frac{3}{4}$	65,529 $\frac{1}{4}$	683,646	98,754 $\frac{1}{2}$	65,318 $\frac{1}{2}$	164,072 $\frac{1}{2}$	847,718
" 1878	702,433 $\frac{1}{2}$	70,927 $\frac{1}{2}$	773,361	69,122 $\frac{1}{2}$	63,284 $\frac{1}{2}$	132,407	905,768
" 1879	563,754	62,833 $\frac{1}{2}$	626,587 $\frac{1}{2}$	92,237	122,971 $\frac{1}{2}$	215,208 $\frac{1}{2}$	841,796
" 1880	1,096,953 $\frac{1}{2}$	104,151 $\frac{1}{2}$	1,201,105	127,245	145,250 $\frac{1}{2}$	272,495 $\frac{1}{2}$	1,473,600 $\frac{1}{2}$
" 1881	830,751 $\frac{1}{2}$	73,602 $\frac{1}{4}$	904,353 $\frac{3}{4}$	84,346 $\frac{1}{2}$	122,455	206,801 $\frac{1}{2}$	1,111,155 $\frac{1}{4}$
" 1882	879,243 $\frac{1}{2}$	98,983	978,226 $\frac{1}{2}$	101,512	203,235	304,747	1,282,973 $\frac{1}{2}$
" 1883	960,428 $\frac{1}{2}$	87,477 $\frac{1}{2}$	1,047,905 $\frac{1}{2}$	72,558 $\frac{1}{2}$	148,848 $\frac{1}{2}$	221,506 $\frac{3}{4}$	1,269,412 $\frac{1}{2}$
" 1884	1,323,989 $\frac{1}{2}$	132,061 $\frac{1}{4}$	1,456,050 $\frac{3}{4}$	128,223 $\frac{1}{2}$	112,803	241,026 $\frac{1}{2}$	1,697,077 $\frac{1}{2}$
" 1885	1,244,259	74,723 $\frac{1}{2}$	1,318,982 $\frac{1}{2}$	108,190	145,779 $\frac{3}{4}$	253,969 $\frac{3}{4}$	1,572,952 $\frac{1}{4}$
" 1886	1,017,152	125,287 $\frac{1}{2}$	1,142,439 $\frac{1}{2}$	76,211	93,572 $\frac{1}{2}$	169,783 $\frac{1}{2}$	1,312,223 $\frac{1}{2}$
" 1887	962,116	127,588	1,089,704	101,937 $\frac{3}{4}$	111,782 $\frac{1}{2}$	213,720 $\frac{1}{2}$	1,303,424 $\frac{1}{2}$
" 1888	790,458	82,155 $\frac{1}{4}$	872,613 $\frac{1}{4}$	116,542	129,717	246,259	1,118,872 $\frac{1}{4}$
" 1889	1,071,686	112,171	1,183,857	105,417	108,233	213,650	1,397,507
" 1890	1,042,089	81,218 $\frac{1}{2}$	1,123,307 $\frac{1}{2}$	142,340 $\frac{1}{2}$	38,955	181,295 $\frac{1}{2}$	1,304,603

TABLE D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kipperd, &c.	Total.	Gutted.	Ungutted, Kipperd, &c.	Total.	
31st December 1891	797,219	61,427	858,646	208,024	59,402	267,426	1,126,072
" 1892	1,012,452	82,267	1,094,719	125,299	37,924	163,223	1,257,942
" 1893	1,177,365	110,236	1,287,601	90,977	30,960 $\frac{1}{2}$	121,937 $\frac{1}{2}$	1,409,538 $\frac{1}{2}$
" 1894	1,312,926	98,783	1,411,709	91,489	14,879	106,368	1,518,077
" 1895	1,314,225	79,695	1,393,920	114,902	19,312	134,214	1,528,134
" 1896	1,232,549	101,098	1,333,647	132,234	26,035	158,269	1,491,916
" 1897	732,454	72,457	804,911	143,319	41,212	184,531	989,442
" 1898	1,500,533	92,883 $\frac{1}{2}$	1,593,416 $\frac{1}{2}$	174,743	37,188	211,931	1,805,347
" 1899	912,841	71,512	984,353	154,768	36,534	191,302	1,175,655
" 1900	968,077	98,673	1,066,750	156,522	32,333	188,855	1,255,605
" 1901	1,334,010	118,173	1,452,183	109,056	44,646	153,702	1,605,885
" 1902	1,507,138	125,933	1,633,071	123,437	46,651	170,088	1,803,159
" 1903	1,331,664	138,949	1,470,613	105,654	42,543	148,197	1,618,810
" 1904	1,737,345	170,510	1,907,855	102,548	52,571	155,119	2,062,974
" 1905	1,766,734	164,098	1,930,832	112,156	68,613	180,769	2,111,601
" 1906	1,679,947	166,011	1,845,958	116,343	35,561	151,904	1,997,862
" 1907	2,181,017	189,892	2,370,909	147,945	59,414	207,359	2,578,268
" 1908	1,787,835	183,495	1,971,330	163,931	64,808	228,739	2,200,069
" 1909	1,507,914	180,740	1,688,654	148,410	53,201	201,611	1,890,265
" 1910	1,934,320	211,236	2,145,556	145,628	37,690	183,318	2,328,874
" 1911	1,667,432	207,335	1,874,767	139,272	32,708	171,980	2,046,747
" 1912	1,660,972	178,116	1,839,088	148,414	34,945	183,359	2,022,447
" 1913	1,407,323	172,591	1,579,914	253,804	52,878	306,682	1,886,596
" 1914	1,176,361	185,854	1,362,215	185,925	66,387	252,312	1,614,527
" 1915	28,597	61,502	90,099	44,852	40,518	85,370	175,469
" 1916	322,398	149,043	471,441	89,709	72,847	162,556	633,997
" 1917	109,976	178,770	288,746	120,743	67,566	188,309	477,055
" 1918	25,942	268,641	294,583	11,750	80,748	92,498	387,081
" 1919	729,612	346,272	1,075,884	47,057	75,634	122,691	1,198,575
" 1920	591,303	272,854	864,157	93,904	58,911	152,815	1,016,972

TABLE E.—No. I.

CURED FISH INSPECTED AND GRADED.—RETURN showing the Numbers of Barrels of Cured Herrings accepted under the Government Guarantee Scheme, distinguishing the different Selections and Grades, and the Amount of Fees collected, during the Year 1920.

No.	DISTRICT.	Full (in- cluding La. Full).	Matt. Full.	Mattie. Barrels.	Spent (in- cluding La. Spent).	Torn- bellies.	Total.	Fees Received.	DISTRICT.	No.
		Barrels.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.	£ s. d.		
1	Eyemouth	528½	2,968	5,640	74½	418	9,629	160 9 8	Eyemouth.	1
2	Anstruther	238½	607½	1,354	..	559½	2,759½	45 19 10	Anstruther.	2
3	Aberdeen	104	468	729	..	136	1,437	23 19 0	Aberdeen.	3
4	Peterhead	11,456½	28,162	36,914½	600½	1,069	78,202½	1,303 7 6	Peterhead.	4
5	Fraserburgh	11,854	29,398	36,149½	140	3,690	81,231½	1,353 17 2	Fraserburgh.	5
6	Banff	1,104	3,239	3,804	348½	250½	8,746	145 15 4	Banff.	6
7	Buckie	804½	3,745½	7,578½	93½	1,312	13,534	225 11 4	Buckie.	7
8	Findhorn	279	1,198½	2,713½	5	197½	4,393½	73 4 6	Findhorn.	8
9	Lybster	9	51	219	..	11½	290½	4 16 10	Lybster.	9
10	Wick	14,357½	26,968½	30,225½	978½	3,096	75,626	1,260 8 8	Wick.	10
11	Orkney	8,088	11,373	9,558½	501½	1,313	30,934	515 11 4	Orkney.	11
12	Shetland	38,639	4,604	241½	17,329½	2,764	63,578	1,059 12 8	Shetland.	12
13	Stornoway	6,132	7,278	7,370½	..	634	21,414½	356 18 2	Stornoway.	13
14	Barra	115	313	59	..	26	513	8 11 0	Barra.	14
15	Fort-William	63	29½	5	..	3	100½	1 13 6	Fort-William.	15
	Total, Grade I.	93,772½	120,403½	142,662	20,071½	15,480	392,389½	6,539 16 6	Total, Grade I.	
1	Eyemouth	12	171	853	..	..	1,036	17 5 4	Eyemouth.	1
2	Anstruther	..	..	78	..	..	78	1 6 0	Anstruther.	2
3	Peterhead	76	142	250	206½	..	674½	11 4 10	Peterhead.	3
4	Fraserburgh	143	915	1,008	..	..	2,066	34 8 8	Fraserburgh.	4
5	Buckie	3	7	27	..	..	37	0 12 4	Buckie.	5
6	Findhorn	..	3	252½	..	..	255½	4 5 2	Findhorn.	6
7	Wick	125	1,201½	1,661	..	..	2,987½	49 15 10	Wick.	7
8	Orkney	319	414	316	..	..	1,049	17 9 8	Orkney.	8
9	Shetland	2,623½	133	..	1,061½	..	3,818	63 12 8	Shetland.	9
10	Stornoway	355	164	414	..	..	933	15 11 0	Stornoway.	10
11	Barra	2	16	2	..	..	20	0 6 8	Barra.	11
	Total, Grade II.	3,658½	3,166½	4,861½	1,268	..	12,954½	215 18 2	Total, Grade II.	



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Eyemouth	20	765	..	..	..	..	..	..	..	..	..	..	..	..	..
Peterhead	55	515	..	..	..	..	..	..	..	..	..	..	..	..	..
Fraserburgh	58	46	..	..	..	..	..	..	..	..	..	..	..	..	..
Buckie	55	76	..	..	..	..	..	..	..	..	..	..	..	..	..
Orkney	580	738	..	..	..	..	..	..	..	..	..	..	..	..	..
Shetland	101	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total, Grade III.	869	2,140	..	..	..	..	..	..	..	..	..	..	..	..	..
Eyemouth	3,159	7,258	74½	418	11,450	190	16	8	..	..	..	..	..	..	..
Anstruther	23½	1,432	..	559½	2,837½	47	5	10	..	..	..	..	..	..	..
Aberdeen	104	729	..	136	1,437	23	19	0	..	..	..	..	..	..	..
Peterhead	28,359	37,679½	807	1,069	79,451	1,324	3	8	..	..	..	..	..	..	..
Fraserburgh	30,371	37,203½	140	3,690	83,401½	1,390	0	6	..	..	..	..	..	..	..
Banff	3,239	3,804	348½	250½	8,746	145	15	4	..	..	..	..	..	..	..
Buckie	817½	7,681½	93½	1,312	13,712	228	10	8	..	..	..	..	..	..	..
Findhorn	279	2,966	5	197½	4,649	77	9	8	..	..	..	..	..	..	..
Lybster	51	219	..	11½	290½	4	16	10	..	..	..	..	..	..	..
Wick	28,170	31,886½	978½	3,096	78,613½	1,310	4	6	..	..	..	..	..	..	..
Orkney	12,367	10,712½	501½	1,313	33,426	557	2	0	..	..	..	..	..	..	..
Shetland	4,838	241½	18,391	2,764	68,242	1,137	7	4	..	..	..	..	..	..	..
Stornoway	7,442	7,844½	..	634	22,347½	372	9	2	..	..	..	..	..	..	..
Barra	329	61	..	26	533	8	17	8	..	..	..	..	..	..	..
Fort-William	29½	5	..	3	100½	1	13	6	..	..	..	..	..	..	..
Grand Total Accepted	124,439	149,663½	21,339½	15,480	409,237	6,820	12	4	..	..	..	..	..	..	..
Rejected	18	18½	..	250	427	7	2	4	..	..	..	..	..	..	..
Total Presented	124,457	149,682	21,339½	15,730	409,664	6,827	14	8	..	..	..	..	..	..	..

NOTE.—In addition to the above the following were Crown Branded during the year :—La. Full, 58 barrels; Full, 13½ barrels; Mat. Full, 480 barrels; Mattie, 503 barrels; La. Spent, 8 barrels.—Total, 1062½ barrels; in respect of which Brand Fees amounting to £17, 14s. 2d. were received. 73 barrels presented for the Crown Brand were rejected.

TABLE E.—No. II.

FISH EXPORTED.—RETURN showing the Total Quantity of Fish Exported to England, Ireland, the Continent, and Places out of Europe during the Year 1920.

I.—HERRINGS.						
DESCRIPTION OF FISH.	DESTINATION.					
	Eng-land.	Ire-land.	The Continent.	Places out of Europe.	Total 1920.	Total 1919.
CURED GUTTED HERRINGS.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.
(a) Graded or Branded—						
Full (including La.						
Full) . . . . .	5,659½	..	24,013	..	29,672½	63,527½
Mat. Full . . . . .	200	..	48,689	..	48,889	86,756
Mattie . . . . .	..	..	56,169	..	56,169	65,384½
Spent (including La.						
Spent) . . . . .	..	..	2,939	..	2,939	16,767
Tornbellies . . . . .	..	..	13,766	..	13,766	..
Total Graded or Branded . . . . .	*5,859½	..	145,576	..	151,435½	232,435
(b) Not Graded or Branded	4,176½	1,886	96,480½	69,052	171,595	365,114
Total Cured Guttled . . . . .	10,036	1,886	242,056½	69,052	323,030½	} 597,549
Total Cured Unguttled . . . . .	2,525	..	7,760	..	10,285	
Herrings Sprinkled or Iced . . . . .	5,816	..	..	..	5,816	20,000
Grand Totals for 1920 . . . . .	18,377	1,886	249,816½	69,052	339,131½	..
Grand Totals for 1919 . . . . .	21,586	1,617	531,793½	62,552	..	617,549
Increase in 1920 . . . . .	..	269	..	6,500	..	..
Decrease in 1920 . . . . .	3,209	..	281,977	..	278,417½	..

\* See foot-note to Table E.—No. III.

II.—OTHER KINDS.						
Cod. Ling. &c., dried, cwts.	48,144	6,351	50,877	10,784	116,156	72,458
Do., pickled, brls.	..	..	18	..	18	..
Mackerel, do. do.	..	..	218	..	218	98
Sprats, pickled, cwts.	1,000	..	6,294	..	7,294	1,630

NOTE.—In addition to the above there were exported *via* Glasgow 13,704 barrels of Irish herrings to America, and of preserved fish 15,766 cwts. to America, 5,567 cwts. to Australia, 1,114 cwts. to Ireland, and 937 cwts. to England, making a total of 23,384 cwts.

TABLE E.—No. III.

DESTINATION OF EXPORTS.—STATEMENT showing the Ports or Places to which the Cured Herrings exported to the Continent were shipped.

DESTINATION.	From East Coast.	From Orkney & Shetland.	From West Coast.	Total 1920.	Total 1919.
GERMANY AND THE BALTIC :—	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.
Cuxhaven . . .	1,290	..	..	1,290	..
Hamburg . . .	17,957	..	..	17,957	78,858½
Stettin . . .	4,667	..	..	4,667	101,177
Neufahrwasser . .	398	..	..	398	..
Danzig . . .	72,838½	16,974	1,595½	91,408	55,974
Königsburg . . .	13,803½	..	..	13,803½	32,673
Memel . . .	8,196	1,938	..	10,134	16,048½
Rostock . . .	..	..	..	..	2,575½
Libau . . .	23,972½	4,573	2,499½	31,045	78,725
Riga . . .	..	..	..	..	11,467½
Wyborg . . .	7,100	..	..	7,100	19,453½
Revel . . .	..	..	..	..	3,292½
Helsingfors . . .	10,219	..	..	10,219	21,946½
Abo . . .	3,000	..	..	3,000	..
SWEDEN :—					
Stockholm . . .	11,751½	3,245	..	14,996½	8,328½
Gothenburg . . .	7,390½	..	..	7,390½	261
NORWAY :—					
Bergen . . .	..	..	..	..	5,638
Christiania . . .	100	..	..	100	1,751
Stavanger . . .	..	..	..	..	1,163
DENMARK :—					
Copenhagen . . .	108½	..	..	108½	2,624
HOLLAND :—					
Vlaardingen . . .	..	..	..	..	19,719½
Rotterdam . . .	502½	..	..	502½	12,667½
BELGIUM :—					
Antwerp . . .	7,589½	..	..	7,589½	14,920
Ostend . . .	4,171	..	..	4,171	7,697½
Ghent . . .	..	..	..	..	185
Astride . . .	837	..	..	837	..
FRANCE :—					
Dunkirk . . .	60	..	..	60	..
Calais . . .	..	..	..	..	8,196
Boulogne . . .	..	..	..	..	7,051
Fécamp . . .	3,266	..	..	3,266	19,400
Rouen . . .	190½	..	..	190½	..
PORTUGAL :—					
Lisbon . . .	52½	..	..	52½	..
ROUMANIA :—					
Galatz . . .	10,920½	8,400	210	*19,530½	..
Totals . . .	210,381½	35,130	4,305	249,816½	531,793½

\* In addition to the quantities shown above, 5859½ barrels sent to England were subsequently shipped to Galatz.





TABLE E.—No. IV.

VALUE OF CURED FISH.—RETURN showing the estimated Value—after Cure—of Herrings Cured (distinguishing Herrings Graded under the Government Guarantee Scheme or Branded) and of Cod, &c. Cured during the Year 1920.

DISTRICT.	VALUE OF CURED HERRINGS GRADED OR BRANDED.					
	Full (including La. Full.)	Mat. Full.	Mat. tie.	Spent (including La Spent).	Torn-bellies.	Total Graded or Branded.
<b>EAST COAST.</b>	£	£	£	£	£	£
Eyemouth . . . .	1,691	9,880	22,697	233	1,307	35,808
Leith . . . . .	..	..	..	..	..	..
Anstruther . . . .	803	1,973	4,475	..	839	8,090
Montrose . . . . .	..	..	..	..	..	..
Stonehaven . . . .	..	..	..	..	..	..
Aberdeen . . . . .	..	..	..	..	..	..
Peterhead . . . . .	39,242	92,360	117,805	2,018	1,603	253,028
Fraserburgh . . . .	40,772	101,554	118,516	350	5,535	266,727
Banff . . . . .	3,784	10,527	11,888	871	377	27,447
Buckie . . . . .	2,981	12,389	24,014	234	1,470	41,088
Findhorn . . . . .	942	3,897	8,481	12	306	13,638
Cromarty . . . . .	..	..	..	..	..	..
Helmsdale . . . . .	..	..	..	..	..	..
Lybster . . . . .	30	166	684	..	18	898
Wick . . . . .	49,251	90,806	98,270	2,447	4,648	245,422
East Coast Totals . .	139,496	323,552	406,830	6,165	16,103	892,146
<b>Orkney and Shetland.</b>						
Orkney . . . . .	28,827	40,056	33,300	1,254	1,970	105,407
Shetland . . . . .	142,011	15,724	755	45,998	4,146	208,634
Orkney and Shetland Totals . . . .	170,838	55,780	34,055	47,252	6,116	314,041
<b>WEST COAST</b>						
Stornoway . . . . .	20,342	23,260	24,333	..	1,981	69,916
Barra . . . . .	366	1,028	190	..	81	1,665
Loch Broom . . . . .	..	..	..	..	..	..
Loch Carron and Skye . . . . .	..	..	..	..	..	..
Fort-William . . . .	213	96	16	..	5	330
Campbeltown . . . .	..	..	..	..	..	..
Inveraray . . . . .	..	..	..	..	..	..
Rothsay . . . . .	..	..	..	..	..	..
Greenock . . . . .	..	..	..	..	..	..
Ballantrae . . . . .	..	..	..	..	..	..
West Coast Totals. . .	20,921	24,384	24,539	..	2,067	71,911
Grand Totals for 1920 . .	331,255	403,716	465,424	53,417	24,286	1,278,098
Grand Totals for 1919 . .	199,602	247,531	173,380	26,984	..	647,497
Increase in 1920 . . .	131,653	156,185	292,044	26,433	24,286	630,601
Decrease in 1920 . . .	..	..	..	..	..	..

NOTE.—Total Value of Crown Branded Herrings included above = £3,403.

TABLE E.—

VALUE OF CURED FISH.—RETURN showing the estimated Value—after Cure  
Guarantee Scheme or Branded) and of

DISTRICT.	VALUE OF CURED HERRINGS NOT GRADED OR BRANDED.					
	Gutted.	Un- gutted.	Kip- pered.	Bloaters or Reds.	Tinned.	Total not Graded or Branded.
EAST COAST.	£	£	£	£	£	£
Eyemouth . . . . .	4,058	1,230	263,428	9,284	51,571	329,571
Leith . . . . .	756	..	23,500	1,125	..	25,381
Anstruther . . . . .	101	..	165	640	..	906
Montrose . . . . .	..	35	357	176	3,586	4,154
Stonehaven . . . . .	..	..	560	..	..	560
Aberdeen . . . . .	4,491	90	137,290	22,420	159,180	323,471
Peterhead . . . . .	17,542	861	162,085	78	21,900	202,466
Fraserburgh . . . . .	66,471	6,123	180,634	6,996	95,029	355,253
Banff . . . . .	103	..	12,980	..	..	13,083
Buckie . . . . .	8,324	5,314	41,480	932	..	56,050
Findhorn . . . . .	482	..	510	..	..	992
Cromarty . . . . .	..	..	..	..	..	..
Helmsdale . . . . .	790	..	..	..	..	790
Lybster . . . . .	340	..	5,338	..	..	5,678
Wick . . . . .	50,200	18,340	210,465	..	..	279,005
East Coast Totals . . . . .	153,658	31,993	1,038,792	41,651	331,266	1,597,360
Orkney and Shetland.						
Orkney . . . . .	5,415	..	..	..	..	5,415
Shetland . . . . .	136,617	798	16,756	..	..	154,171
Orkney and Shetland Totals	142,032	798	16,756	..	..	159,586
WEST COAST.						
Stornoway . . . . .	79,656	13,525	112,229	90	..	205,500
Barra . . . . .	57,835	190	..	..	..	58,025
Loch Broom . . . . .	1,473	..	..	..	..	1,473
Loch Carron and Skye . . . . .	3,421	404	16,606	168	..	20,599
Fort-William . . . . .	15,574	313	53,710	..	..	69,597
Campbeltown . . . . .	1,950	..	777	..	..	2,727
Inveraray . . . . .	1,934	..	210	9	..	2,153
Rothsay . . . . .	579	..	2,640	100	..	3,319
Greenock . . . . .	13,704	..	84,930	325	..	98,959
Ballantrae . . . . .	285	..	6,495	..	..	6,780
West Coast Totals . . . . .	176,411	14,432	277,597	692	..	469,132
Grand Total for 1920 . . . . .	472,101	47,223	1,333,145	42,343	331,266	2,226,078
Grand Total for 1919 . . . . .	966,373	133,336	1,642,511	77,651	304,184	3,124,055
Increase in 1920 . . . . .	..	..	..	..	27,082	..
Decrease in 1920 . . . . .	494,272	86,113	309,366	35,308	..	897,977



No. IV.—*continued.*

—of Herrings Cured (distinguishing Herrings Graded under the Government Cod, &c. Cured during the Year 1920.

Grand Total Value of Cured Herrings.	VALUE OF CURED COD, LING, &c.					Grand Total Value of Cured Fish
	Dried.	Pickled.	Tinned.	Smoked.	Total.	
£	£	£	£	£	£	£
365,379	..	..	..	3,138	3,138	368,517
25,381	..	..	..	19,590	19,590	44,971
8,996	2,910	..	..	370	3,280	12,276
4,154	299	..	1,132	56,817	58,248	62,402
560	..	..	..	9,672	9,672	10,232
323,471	288,756	..	27,500	1,646,307	1,962,563	2,286,034
455,494	294	194	3,045	6,741	10,274	465,768
621,980	1,419	327	18,340	8,848	28,934	650,914
40,530	120	..	..	22,500	22,620	63,150
97,138	2,058	..	..	7,238	9,296	106,434
14,630	..	1,500	..	10,264	11,764	26,394
..	..	..	..	1,624	1,624	1,624
790	..	..	..	1,204	1,204	1,994
6,576	..	..	..	360	360	6,936
524,427	868	..	..	780	1,648	526,075
2,489,506	296,724	2,021	50,017	1,795,453	2,144,215	4,633,721
110,822	540	..	..	..	540	111,362
362,805	6,108	238	..	2,286	8,632	371,437
473,627	6,648	238	..	2,286	9,172	482,799
275,416	452	165	..	352	969	276,385
59,690	510	..	..	..	510	60,200
1,473	1,820	..	..	..	1,820	3,293
20,599	..	..	..	151	151	20,750
69,927	..	..	..	..	..	69,927
2,727	1,120	..	..	..	1,120	3,847
2,153	..	..	..	..	..	2,153
3,319	..	..	..	..	..	3,319
98,959	85	..	..	..	85	99,044
6,780	101	..	..	342	443	7,223
541,043	4,088	165	..	845	5,098	546,141
3,504,176	307,460	2,424	50,017	1,798,584	2,158,485	5,662,661
3,771,552	346,212	23,385	20,627	567,462	957,686	4,729,238
..	..	..	29,390	1,231,122	1,200,799	933,423
267,376	38,752	20,961	..	..	..	..

NOTE.—In addition to the above there was imported from Iceland and Faroe, in a wet-salted or partly dried state and dried in Scotland fish to the value—after cure—of £51,405 (Cod £36,318, Ling £5,287, Saithe £6,650, and Haddocks £3,150.)



## No. 1.

Persons employed in each District in connection with the various during the Year 1920.

Boxmakers.	Boat Builders.	Basketmakers.	Persons making and mending Nets.	Persons manufacturing Barrel Staves.	Persons employed on board Vessels Curing, Exporting, and Carrying Herrings and other Fish.		Persons employed on board Vessels Importing Salt, Stave Wood, and Hoops.		Other Occupations.	Total Persons employed.	DISTRICT.
					British.	Foreign.	British.	Foreign.			
EAST COAST.											
..	15	..	13	..	11	4	5	..	..	1,098	Eyemouth.
13	59	17	572	..	278	..	..	4	203	4,448	Leith.
..	19	..	210	4	..	..	..	..	26	2,411	Anstruther.
8	106	4	76	2	..	..	..	..	54	2,294	Montrose.
..	1	..	45	..	..	..	..	..	..	361	Stonehaven.
210	2,550	20	447	35	271	25	8	236	252	12,080	Aberdeen.
12	28	..	125	38	166	145	127	102	22	4,591	Peterhead.
8	32	3	120	50	374	137	221	195	..	5,622	Fraserburgh.
..	62	..	35	6	4	..	..	..	18	1,945	Banff.
..	312	..	84	6	54	10	42	..	12	5,291	Buckie.
..	16	..	55	..	6	3	..	..	55	2,367	Findhorn.
..	5	..	6	..	..	..	..	..	..	932	Cromarty.
..	..	..	..	..	..	..	..	..	1	456	Helmsdale.
..	1	..	..	..	..	..	..	..	..	226	Lybster.
21	12	7	40	12	122	200	73	106	..	3,578	Wick.
272	3,218	51	1,828	153	1,236	524	476	643	643	47,700	East Coast Totals.
Orkney and Shetland.											
..	33	..	..	..	24	34	..	19	12	1,199	Orkney.
..	34	..	47	12	242	58	584	95	23	6,116	Shetland.
..	67	..	47	12	266	92	584	114	35	7,315	Orkney and Shetland Totals.
WEST COAST.											
..	18	..	45	4	376	15	32	12	7	6,161	Stornoway.
..	..	..	..	..	61	..	24	..	..	1,329	Barra.
..	6	..	..	..	15	..	..	..	..	1,069	Loch Broom.
..	15	6	..	..	72	..	..	..	..	1,234	Loch Carron and Skye
..	6	..	..	..	60	..	..	..	..	600	Fort-William.
..	4	..	36	..	127	..	2	..	1	864	Campbeltown.
..	17	..	4	..	83	..	2	..	..	548	Inveraray.
..	12	..	..	..	90	..	..	..	..	298	Rothsay.
10	5	12	300	..	445	..	18	..	30	3,126	Greenock.
..	8	..	..	..	..	..	..	..	..	739	Ballantrae.
10	91	18	385	4	1,329	15	78	12	38	15,968	West Coast Totals.
232	3,376	69	2,260	169	2,881	631	1,138	769	716	70,983	Grand Totals for 1920.
263	3,684	51	1,778	129	2,879	1,812	386	471	481	60,159	Grand Totals for 1919.
19	..	18	482	40	2	..	752	298	235	10,824	Increase in 1920.
..	308	..	..	..	..	1,181	..	..	..	..	Decrease in 1920.



TABLE I.—No. 1.

## HARBOUR WORKS.—ACCOUNT of RECEIPTS and PAYMENTS by the Fishery Board for Scotland for Building, Extending, and Repairing PIERS or HARBOURS in Scotland in the Year 1920.

<i>Dr.</i>		<i>Cr.</i>
1920.		
Jan. 1. To Balance	£ s. d. 14,459 16 8	£ s. d. Dec. 31. By Payments for Harbour Works during the year, viz. :—
Mar. 31. To Interest on amount deposited in Bank	930 4 0	Whitehills . . . . . 925 3 5
„ „ To Grant in aid of Piers or Quays (5 Geo. IV. cap. 64)	3,000 0 0	„ „ By R. Gordon Nicol, O.B.E., M.Inst. C.E., allowance to provide professional assistance . . . . . 52 10 0
Aug. 4. To Interest on amount deposited in Bank	41 17 5	„ „ By W. A. Knight, Clerk of Works, allowance for Inspection of Harbour Works 54 18 0
Nov. 11. To do. do.	415 0 11	„ „ By Balance in hand . . . . . 17,814 7 7
	<u>£18,846 19 0</u>	<u>£18,846 19 0</u>

TABLE I.—No. II.

RETURN of the PIERS and HARBOURS Erected or Improved by the FISHERY BOARD FOR SCOTLAND from 1st January 1883 to 31st December 1920, showing for each undertaking the CONTRIBUTION made by the Board.

County.	Pier or Harbour.	Contributions by the Board.			County.	Pier or Harbour.	Contributions by the Board.		
		£	s.	d.			£	s.	d.
						Brought forward	79,034	4	3
Aberdeen	*Roseheart	3,881	10	11	Elgin	Lossiemouth	1,000	0	0
	Pennan	1,320	13	4	Fife	St. Monance	5,839	18	1
	Collieston	5,482	0	7		Pittenweem	4,450	0	0
	Sandhaven	738	10	9		St. Andrews	5,670	2	1
	Fraserburgh	5,000	0	0		Cellardyke	1,300	0	0
Argyll	Carsaig, Mull	5	17	0	Forfar	Auchmithie	4,125	0	0
	Waterfoot,				Haddington	Port Seton	180	0	0
	Cantyre	24	0	0	Inverness	Broadford,			
Ayr	Dunure	512	6	8		Skye	7,875	0	0
	Ballantrae	105	0	0	Kincardine	Stonehaven	2,900	0	0
	Maidens	1,181	19	6	Northum-	Greenshaven	319	16	1
Banff	Crovie	971	16	3	berland	Craster	1,000	0	0
	*Findochty	9,331	8	9	Nairn	Nairn	5,587	10	0
	Buckpool	1,474	18	11	Orkney and	Holm, Ork-			
	Buckie				Shetland	ney	1,102	0	10
	(Cluny)	15,000	0	0		Whitehall,			
	Portknockie	6,993	16	0		Stronsay	3,000	0	0
	Whitehills	10,012	4	7	Ross and	Balintore	5,805	13	0
	Sandend	432	18	4	Cromarty	Rockfield	10	0	0
	Cullen	3,100	0	0		Ness, Lewis	8,072	6	7
	†Banff	5,465	2	8		Cromarty	300	0	0
	Macduff	5,000	0	0		Avoch	1,900	0	0
Berwick	Coldingham	3,000	0	0	Sutherland	Portnacon.	900	0	0
	Carried forward	79,034	4	3			140,371	10	11

\* These harbours were begun by the old Board, but the whole of the payments made towards the works are now given.

† The grant to this harbour has not yet been wholly expended.

TABLE I.—No. III.

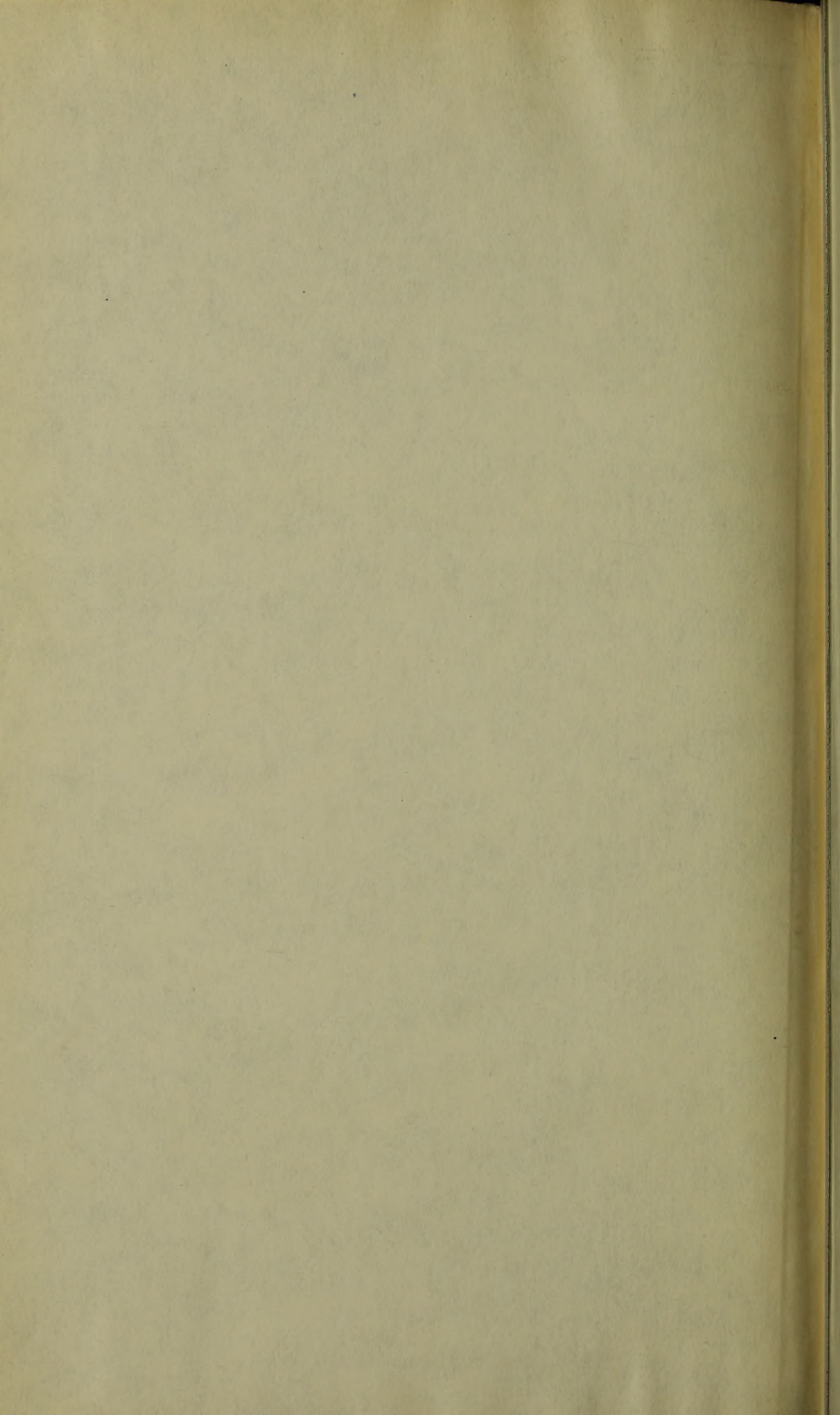
BRAND FEES.—ACCOUNT OF THE BRAND FEE REVENUE, THE COST OF COLLECTION, THE SURPLUS, AND THE EXPENDITURE, during the period from 1881 to 1920-21.

Year of Collection.	Total Proceeds of Brand Fees.	Estimated Cost of Collection.*	Surplus or Deficit.	Year in which Surplus Voted.	Amount Voted.	How Amount Voted disposed of.				Transferred to General Harbour Fund.†
						For Telegraph Guarantees.	For Scientific Investigation.	For Eymouth Harbour Loan Guarantee.	9.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	
	£	£	£		£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
10 Years } 1881-90 }	83,245	56,647	26,598	1882-92	26,860	9,710 14 1	768 1 4	1,824 0 0§	14,557 4 7	
10 Years } 1891-1900 }	65,760	49,650	16,110	1892-1902	18,398	3,238 12 3	..	2,895 6 11	12,264 0 10	
1901	6,423	5,096	1,327	1902-03	1,327	..	..	460 4 6	866 15 6	
1902	7,259	5,219	2,040	1903-04	2,040	..	..	453 14 6	1,586 5 6	
1903	6,067	5,181	886	1904-05	886	..	..	447 4 6	438 15 6	
1904	8,070	5,443	2,627	1905-06	2,627	..	..	440 14 6	2,186 5 6	
1905	6,582	5,363	1,219	1906-07	1,219	..	..	437 9 6	781 10 6	
1906	5,100	5,487	387	..	..	..	..	..	..	
1907	8,928	5,277	3,651	1908-09	3,651	..	..	421 4 7	3,229 15 5	
1908	7,218	5,419	1,799	1909-10	1,799	..	..	414 14 6	1,384 5 6	
1909	3,857	5,376	1,519	..	..	..	..	..	..	
1910	5,246	5,467	221	..	..	..	..	..	..	
1911	4,455	5,549	1,094	..	..	..	..	..	..	
1912	2,915	5,550	2,635	..	..	..	..	..	..	
1913	4,110	5,549	1,439	..	..	..	..	..	..	
1914	1,288	5,639	4,351	..	..	..	..	..	..	
1915	Nil	5,420	5,420	..	..	..	..	..	..	
1916	Nil	5,406	5,406	..	..	..	..	..	..	
1917	Nil	5,217	5,217	..	..	..	..	..	..	
1918	Nil	5,302	5,302	..	..	..	..	..	..	
1919	4,553	5,715	1,162	..	..	..	..	..	..	
1920	17	7,685	7,668	..	..	..	..	..	..	
Total	231,093	216,657	14,436	..	58,807	12,949 6 4	768 1 4	7,794 13 6	37,294 18 10	

\* For details see Civil Service Estimates (Class II., Vote for Fishery Board for Scotland).  
† To be spent as required.  
‡ For details of these years, see 19th or previous Annual Reports.  
§ This amount was set aside in the year 1891 as a Reserve Fund only to be drawn upon in the event of the Brand Fee Surplus in any particular year being insufficient, after defraying Telegraph Guarantees, to meet the liabilities under the Loan Guarantee. In 1892-93, £231 0s. 9d. was paid from this Fund; in 1898-99, £436 4s. 6d.; in 1900-01, £473 4s. 6d.; in 1901-02, £466 14s. 6d.; and in 1906-07, the balance, amounting to £165 16s. 4d.  
|| For details of these years, see 24th Annual Report.

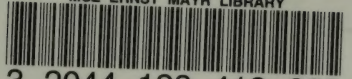








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